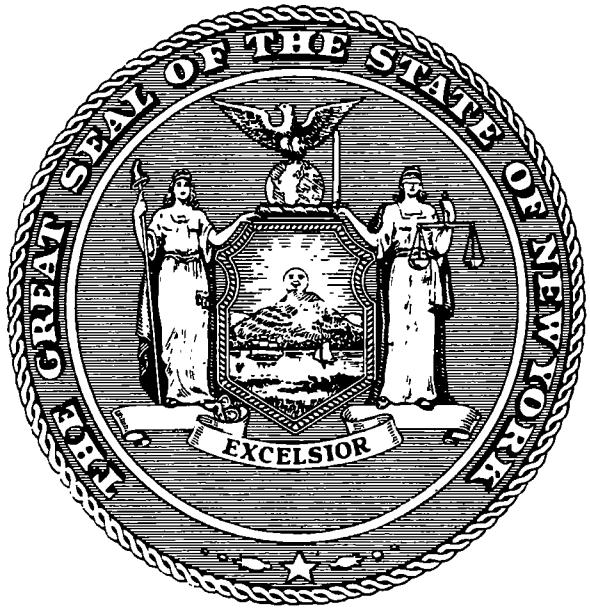


Progress Report of the NEW YORK STATE LEGISLATIVE COMMISSION ON WATER RESOURCE NEEDS OF LONG ISLAND

1991

Caesar Trunzo
Senate Co-Chairman

Thomas P. DiNapoli
Assembly Co-Chairman

In Memory of William T. Dagher, ESQ., who dedicated his time and service to the goals of the Commission.

NEW YORK STATE LEGISLATIVE COMMISSION ON WATER RESOURCE NEEDS OF LONG ISLAND

SENATOR CAESAR TRUNZO
CO-CHAIR

State Office Building
Hauppauge, New York 11788
(516) 360-6206

GEORGE PROIOS
Co-Executive Director

ASSEMBLYMAN THOMAS P DiNAPC
CO-CHAIR

Suite 213, 11 Middle Neck Road
Great Neck, New York 11021
(516) 829-3368

DAVID A STERN
Assembly Executive Director

March 30, 1991

The Honorable Mario Cuomo
Governor of New York
Executive Chamber
Albany, New York 12224

The Honorable Ralph J. Marino
Senate Majority Leader

The Honorable Mel Miller
Speaker of the Assembly

The Honorable Manfred Ohrenstein
Senate Minority Leader

The Honorable Clarence Rappleyea
Assembly Minority Leader

Dear Sirs:

We are pleased to submit the eleventh Annual Progress Report of the New York State Legislative Commission on Water Resource Needs of Long Island in accordance with the provisions of Chapter 50 of the Laws of 1979, which established the Commission.

The Commission has completed its first decade of accomplishments. As evidenced by its previous Progress Reports, its participation in committees, conferences and studies, and its sponsorship of hearings and most notably, its legislative proposals, the Commission has been an integral part of the improved protection of Long Island's water resources. However, much more remains to be accomplished before the enabling mandates of the Commission are adequately fulfilled.

Ten years ago, only limited information was available regarding the extent of water resource problems, such as organic compound contamination of Long Island's aquifers, inactive hazardous waste sites and the impact of land use. Increased information on these problems and improvements in analytical testing have dramatically increased the monitoring requirements of Long Island's water resources. Accordingly, it has become increasingly important to focus attention on preventing contamination, since there is a direct relationship between increased degradation and remediation costs.

The Progress Reports of the Commission provide a detailed compilation of information and an on-going discussion regarding the prevention of the many complex problems affecting the water resources of Long Island, especially its groundwater. The 1991 Progress Report provides updates on each of the issue areas of the water resource needs of Long Island.

As always, the Commission's most able response to Long Island's water resource problems is its legislative program. During the 1990-91 legislative session, the Commission sponsored over 20 bills that address critical and as yet unresolved problems facing Long Island's water resources. In particular, the proposed Special Groundwater Protection Area (SGPA)/State Environmental Quality Review Consistency Bill, which requires environmental reviews to indicate that an agency's actions are consistent with the SGPA Comprehensive Management Plan, exemplifies the philosophy of prevention and articulates a commitment by the Commission toward a policy of taking preventive action whenever possible.

As evidenced by the topics in the Progress Report, the Commission has continued to add to the legislative and technical foundation which it has established during the past decade. Much more remains to be accomplished, however, as the Commission works to fulfill its legislative mandate. With your support and assistance we look forward to continuing this important work.

Sincerely,

Caesar Trunzo
Senator

Thomas P. DiNapoli
Assemblyman

TABLE OF CONTENTS

The New York State Legislative Commission On Water Resource Needs of Long Island 1990-91

CAESAR TRUNZO
CO-CHAIRMAN
Senate Member

THOMAS P. DiNAPOLI
CO-CHAIRMAN
Assembly Member

JAMES J. LACK
Senate Member

LEWIS J. YEVOLI
Assembly Member

LEONARD P. STAVISKY
Senate Member

PHILIP B. HEALEY
Assembly Member

GEORGE H. MADISON
Assembly Member

ROBERT K. SWEENEY
Assembly Member

The New York State Legislative Commission On Water Resource Needs of Long Island 1989

CAESAR TRUNZO
CO-CHAIRMAN
Senate Member

THOMAS P. DiNAPOLI
CO-CHAIRMAN
Assembly Member

JAMES J. LACK
Senate Member

LEWIS J. YEVOLI
Assembly Member

LEONARD P. STAVISKY
Senate Member

PHILIP B. HEALEY
Assembly Member

FREDERICK E. PAROLA
Assembly Member

1990-91 PROFESSIONAL STAFF

SENATE

GEORGE PROIOS
Executive Director

MARYELLEN McNICHOLAS
Assistant Director

BRIAN CULHANE
Senior Research
Analyst

SHEILA L. STERNBERG
Research Analyst

J.B. ANDREASSI
Research Analyst

BARBARA ANN SCHILLING
Office Manager

LYNN A. LAWRENCE
Secretary

LISA NESBITT
Secretary

WILLIAM T. DAGHER
Special Council

MATTHEW GALLO
Graduate Intern

APRIL HOROWITZ
Intern

ASSEMBLY

DAVID STERN
Executive Director

MICHAEL DEERING
Senior Environmental
Analyst

MICHAEL MILLER
Legislative Associate/
Media Coordinator

I. WILLIAM BIANCHI Jr.
Special Assistant

SIMON TSCHINKEL
Environmental Analyst

ROSEMARY KONATICH
Environmental Analyst

MILDRED REINER
Executive Secretary

JOAN DORFF
Secretary

YUVAL ESHET
Graduate Intern

LEGISLATIVE COMMISSION ON WATER RESOURCE NEEDS OF LONG ISLAND

(CHAPTER 50 of the Laws of 1979 and as amended)

The legislature hereby finds and declares that the state has the sovereign power to regulate and control the water resources of this state, including the counties of Nassau and Suffolk and an adequate and suitable water supply for two such counties for water supply, domestic, municipal, industrial, agricultural and commercial uses, power, irrigation, transportation, fire protection, sewage and water assimilation, the growth of the forest, maintenance of fish and wildlife, recreational enjoyment and other uses is essential to the health, safety and welfare of the people and economic growth and prosperity of two said counties.

Recent studies and reports have been made which indicate that due to many diverse reasons, the water supply and water resources of the two said counties may be in jeopardy.

Accordingly, a legislative commission is hereby established (a) to investigate and evaluate said reports; (b) to make recommendations for provisions to be made for the regulation and supervision of activities that deplete, defile, damage or otherwise adversely affect the waters of the two said counties, and the land resources associated therewith; (c) to determine where uncontaminated or virgin sources of water exist in both counties; and (d) to recommend legislative or administrative actions that are required to preserve and protect such resources for future use.

Such Commission shall consist of ten members to be appointed as follows: three members of the Senate shall be appointed by the temporary President of the Senate; three members of the Assembly shall be appointed by the Speaker of the Assembly; two members of the Senate shall be appointed by the Minority Leader of the Senate; and two members of the Assembly shall be appointed by the Minority Leader of the Assembly. Any vacancy that occurs in the Commission shall be filled in the same manner as the original appointment was made. Co-Chairmen of the Commission shall be designated by the President Pro-tem of the Senate and the Speaker of the Assembly respectively. No member, officer, or employee of the Commission shall be disqualfied from holding any other public office or employment, nor shall he forfeit any such office or employment by reason of his appointment hereunder, notwithstanding the provisions of any general, special, or local law, ordinance or city charter.

The Commission may employ personnel required and fix their compensation within the amount appropriated therefor. The Commission may meet within and without the state; hold public and private hearings and otherwise have all of the powers of a legislative committee under the legislative law. The members of the Commission shall receive no compensation for their services but shall be allowed their actual and necessary expenses incurred in the performance of their duties hereunder.

The Commission may request and shall receive from any subdivision, department, board, bureau, commission, office agency or other instrumentality of the state or of any political subdivision thereof, such facilities, assistance and data as it deems necessary or desirable for the proper execution of its powers and duties.

The Commission is hereby authorized and empowered to make and sign any agreements and to do and perform any acts that may be necessary, desirable or proper to carry out the purposes and objectives set forth herein.

The Commission shall submit a report to the Governor and the Legislature containing its findings on or before March thirty-first, nineteen-hundred ninety one. The Commission shall continue in existence until March thirty-first, nineteen-hundred ninety two.

EXPRESSION OF APPRECIATION

For their generous giving of time, energy, and services, for their cooperation and assistance in helping the Commission further realize its goals, the Commission expresses its gratitude to the many individuals devoted to the protection of Long Island's water resources.

SECTION I
GROUNDWATER QUALITY

LAND USE MANAGEMENT

Long Island has been designated a sole source aquifer area because its population lives on top of its reservoir of drinking water. Accordingly, proper land management is critical for preserving groundwater quality. This fact has been recognized and has been a major focus of the Commission from its inception. In fact, an observation contained in the Commission's first Annual Report, issued in 1981, continues to be pertinent today:

> "The development of Long Island has affected both the quantity and quality of water being recharged to the aquifer. Quantity has been affected by paving open land and/or diversion of used water (sewering). Quality has been impaired by land use practices. Conversely, on an undeveloped island, unlike ours, the natural system of recharge to the aquifer works with perfection, keeping the quantity and quality of the water superlative. Therefore, the areas of Long Island where the natural system is still working with little or no contravention should be 'managed' so as to insure in perpetuity the quality and quantity of water recharging the system at these sites. Put simply, certain areas of the Island must be managed in a manner to guarantee the highest quality and quantity of recharge possible."[1]

In an ongoing effort to insure proper management of land use on Long Island, the Commission participates with New York State, Suffolk County and local governmental entities in an attempt to manage the Island's watershed lands in a comprehensive fashion. An example of such cooperation is evident in the Special Groundwater Protection Area study (pursuant to New York State Environmental Conservation Law, Article 55) currently being undertaken.

Long Island's drinking water is replenished by rainfall seeping through the ground which recharges the aquifers. Because there is a limited amount of undeveloped land remaining in critical groundwater recharge areas, it is vital to preserve sufficient open space in order to guarantee that Long Island will have the necessary reserve of quality drinking water. Preservation of open space is also vital in order to dilute groundwater polluted by existing development.

Recognizing that the best means of protecting our watershed and environmentally sensitive lands is through public acquisition, the Commission is participating on land acquisition program committees on the state and county level. These program committees recommend, select and attempt to preserve lands that will maximize the benefits of parcels brought into the public domain. Commission staff is represented on the Suffolk County Executive's Clean

---

[1] New York State Legislative Commission on Water Resource Needs of Long Island, "Progress Report of the New York State Legislative Commission On Water Resource Needs Of Long Island 1981", March 1981, p.53.

Drinking Water Technical Advisory Committee and the Department of Environmental Conservation's Environmental Quality Bond Act Regional Advisory Committee.

New York State Environmental Quality Bond Act of 1986 (EQBA)

This program, which provides monies for cleanup of hazardous and toxic sites ($1.2 billion) and land acquisition, municipal parks and historic preservation ($250 million) is implemented through the New York State Department of Environmental Conservation (DEC) and the Office of Parks, Recreation and Historic Preservation.

The 250 million dollars provided for land acquisition, municipal parks and historic preservation through this program, have been spent (committed) in just four years. Similarly, the completion of the 1972 EQBA program will be seen in 1990. According to a recent publication, "DEC's Land Acquisition Program: 1986 And 1972 Bond Acts":

> During the lifetime of the 1986 and 1972 Bond Acts, DEC has acquired title (fee purchase) or easement, or placed under agreement to acquire, a total of 331,367 acres. These acquisitions, along with commitments to acquire some 65,000 acres, will exhaust the DEC's appropriations from the two Bond Acts...[2]

Among the Long Island purchases (commitments) from the 1986 EQBA are:

* 88 acres adjacent to the DEC-managed Rocky Point Natural Resources area.

* 88 acre Boegner Estate in Old Westbury.

* 1.89 acre shoreline acquisition at Stephenson Beach.

* 341 acre parcel at Barcelona Neck.

* 2 acre parcel at Wildwood Lake.

* 22 acre parcel at Currans Road Pond.

With the success of the 1972 and 1986 Environmental Quality Bond Act programs comes the realization and responsibility to act immediately to continue New York State's long tradition of natural resource protection. Recognizing the need for, and importance of open space preservation, a New York State acquisition program, will be a priority issue for the Commission in the years to come.

---

[2] New York State Department of Environmental Conservation, "DEC's Land Acquisition Program: 1986 And 1972 Bond Acts", January 1990, p.3.

Suffolk County Water Protection Program

This program, funded through the payment of an additional .25 percent surcharge on the County sales tax, is expected to generate 570 million dollars for groundwater protection. The centerpiece of this comprehensive program is a 300 million dollar investment in groundwater protection through the acquisition of pine barrens and watershed lands. This program was subject to two successive referenda wherein the voters of Suffolk County overwhelmingly (83%) expressed their support. It has thus far resulted in the acquisition of approximately 5,632 acres at a cost of approximately 85 million dollars.

The parcels thus far acquired through this program include significant pine barrens parcels that, upon completion of the program, will hopefully result in a national park-quality greenbelt of watershed lands which will enhance the aesthetic, recreational and ecological features as well as the hydrological integrity of this area.

This program is complemented by the County's "Open Space Program" which was initiated in 1986. As a result of this funding source, approximately 3,900 acres of environmentally sensitive lands, at a cost of approximately 59 million dollars have been purchased and placed into the Suffolk County Nature Preserve.

While acquisition remains the best method for protection of Long Island's most environmentally sensitive lands, the Commission is also a strong proponent of utilizing (where appropriate) innovative land use management techniques such as clustering, transfer of development rights and site clearance standards. As is evident in other sections of this Report, the Commission is actively engaged in measures that will result in protection of our groundwater resource. Such efforts are particularly evident in the Special Groundwater Protection Area study and development projects proposed within these areas.

SOLID WASTE MANAGEMENT UPDATE

Introduction

The Commission sponsored Long Island Landfill Law, enacted in 1983, has been the catalyst for change in solid waste management practices among the towns on Long Island. This law established the December 18, 1990 deadline to eliminate landfilling of all solid waste in the deep-flow recharge areas and to allow only the residue from solid waste treatment facilities (such as resource recovery plants, incinerators or compost facilities), untreatable and downtime wastes to be deposited in double lined landfills outside the deep-flow recharge areas. This deadline marks the beginning of a new era in solid waste management by local governments on Long Island. While the manner in which the fifteen municipalities have chosen to address the requirements of this law varies from full compliance to no action at all, the trend is clearly away from landfilling towards conformity with New York State's solid waste hierarchy.

Long Island municipalities are pursuing a variety of solid waste management alternatives including recycling, composting and resource recovery. Some degree of recycling takes place in all towns with the more intensive programs occurring in the western part of the Island. Several towns have leaf and/or yard waste composting facilities. There are three waste to energy (WTE) facilities in operation, two others that are in need of upgrade and two new WTE facilities (one under construction and one in the permitting process).

The Department of Environmental Conservation (DEC) recognizes that long term solutions to solid waste capacity crisis for Long Island must transcend political boundaries and involve substantial intermunicipal cooperation. DEC issued a solid waste management strategy for Long Island in the fall of 1990 which proposed a series of intermunicipal relationships whereby solid waste facilities would be shared. This strategy encourages recycling and composting as the preferred methods of solid waste management and sets a goal of an additional 15-17 percent reduction of waste on top of the statewide goal of 40% recycling by 1997. Through the cooperative arrangements suggested by DEC or comparable ones, costly shipping of waste off the Island can be avoided and environmentally protective solid waste practices adopted.

The Towns of Smithtown and Huntington already have an agreement to share the Huntington resource recovery plant, now under construction, and to share capacity at the Smithtown landfill. Negotiations continue at this time between the Towns of Brookhaven and Hempstead seeking an agreement to share capacity in

the Hempstead resource recovery facility in exchange for disposal of ash in the Brookhaven landfill.

As the Commission has stated on previous Progress Reports, the development of markets is crucial in order to insure the success of recycling programs. In order to create such markets, certain legislative barriers need to be removed, other legislative incentives need to be enacted and an active program to entice new facilities to use recyclable materials needs to be put into place.

The old newspaper (ONM) market is a good example of where the supply, has grown faster than the demand for this material. To restore balance to the market, a State Task Force secured an agreement from the States' daily newspaper publishers to increase their use of recycled newsprint, with a goal of 40% recycled fiber content by the year 2,000. Major newsprint manufacturers in the United States and Canada have announced plans to expand their capacity to produce recycled newsprint. It is anticipated that these actions will improve the outlook for the marketing of recycled newspapers.

Town Recycling Programs/Plans

SUFFOLK COUNTY

Town of Babylon

Recycling - Mandatory curbside pickup of newspapers, bottles and cans for 1, 2, 3 family homes. Plastics and cardboard are collected at drop-off stations. Polystyrene is recycled in some schools. Town offices and local schools are recycling office paper. Plans for a MRF (materials recycling facility) are being developed.

Composting - Babylon has no composting site at this time.

STOP Program - Four dates were scheduled in 1989. The town is considering establishing a permanent STOP facility.

Town of Brookhaven

Recycling - There are drop off stations throughout the town plus curbside collection of newspapers. These stations, as well as the landfill, accept scrap metal, waste oil, auto batteries and glass. Beginning in July 1990, the town will distribute containers for curbside collection of glass, cans and plastics. Office paper is recycled in town offices. A vendor has been selected to construct a MRF (materials recycling facility) at the Brookhaven Landfill and the town is awaiting permit approval by the DEC.

Composting - Leaves and chipped brush are composted at the Holtsville Ecology Site. Leaves are accepted free of charge from residents and landscapers; there is a $10 per cubic yard fee for brush. In 1989, 1,008,466 cubic yards were composted. The finished product is given to residents at no charge or used for landfill cover.

STOP Program - There were four STOP days in 1989, two are planned for 1990. The town is awaiting permits to construct a permanent STOP facility at the landfill that it hopes to have operating by the late Summer of 1990.

Town of East Hampton

Recycling - Voluntary drop off stations are located at the landfill for cardboard, newspaper, glass, plastic, cans, waste oil, tires, white goods and scrap metal. E.& A. Environmental Consultants are preparing a Solid Waste Management Plan for the town, expected to be complete in the Summer of 1990. Plans for

a limited materials recovery facility and composting facility for yard and household waste are expected to be included in the Management Plan. Currently no fees are charged for household refuse; there are fees for brush, appliances and cars.

STOP Program - The town is planning to build a permanent facility at the Fireplace Road Landfill and are waiting for permits from DEC. The town hopes this facility will be complete in the Spring of 1991. Until then, no STOP dates are scheduled.

Town of Huntington

Recycling - Mandatory curbside collection of newspapers, metal cans and glass bottles. Recyclables are transported to Smithtown Municipal Services Facility in Kings Park for processing. Office paper is recycled in town offices as well as a number of private companies and school districts.

Composting - The town has a 21 acre permitted facility, that composted 70,000 cubic yards of leaves and wood chips in 1989. The Town is using the composted materials in a pilot soil management program with St. Charles Cemetery.

STOP Program - Four STOP dates were scheduled in 1989. One STOP date has been scheduled for 1990. In addition, the town is planning a permanent STOP facility.

Town of Islip

Recycling - Mandatory curbside pick-up of recyclables began in 1980. Program now includes recycling of the following materials: glass, metal cans, plastic, paper, newspapers, cardboard and magazines. Town offices recycle office paper. The Town's environmental educator has prepared a recycling curriculum and visits local schools to explain the recycling program. In addition, schools are given help in setting up office paper recycling programs. There is mandatory recycling of corrugated paper by businesses.

Composting - The Town has a 40 acre site that composted 70,000 tons of leaves, grass and wood chips in 1989. Approximately 25,000 tons of compost were produced and used at Town facilities or given to residents. The Town is planning to market the compost in 1990. Tipping fees of $18 per ton for leaves and other yard waste are charged at the compost site versus $40 per ton at the landfill.

STOP Program - Five stop dates were scheduled in 1989. Two dates are scheduled for 1990.

Town of Riverhead

Recycling - The drop off station at the landfill accepts newspaper, glass, metal cans, plastic containers, waste oil. white goods, household/car batteries and cardboard. Residents are charged an annual fee of $50 or $1 per car for each drop off and $2 for a pickup truck; carters are charged $40 per ton. Town Hall offices have been recycling office paper since the start of 1990. Dvirka and Bartilucci Consultants are preparing a Solid Waste Management Plan for the town and the Plan is expected to be complete in the Spring of 1990.

Composting - A 3,000 cubic yard site accepts leaves from residents free of charge during October and November. At other times, residents are charged the usual $1 or $2 fee; carters pay $40 per ton. The finished compost is given to the public. No state permits are required for a site of this size.

STOP Program - There were no STOP dates scheduled in 1989; however, a permanent facility is planned and the town is waiting for approval of permits by DEC. The permanent STOP facility is expected to operate on the same schedule as the landfill.

Town of Shelter Island

Recycling - A drop off station at the town landfill accepts newspapers, tires, waste oil, white goods and plastics. Town offices will begin recycling office paper by the end of March, 1990. The school has already begun an office paper recycling program. A Solid Waste Management Plan is being prepared for the town by Dvirka and Bartilucci Consultants; it is expected to be complete by late Fall of 1990. As part of a review of solid waste management alternatives, the town is considering cooperating with the Town of Brookhaven in its Resource Recovery Facility. Shelter Island does not charge currently for the disposal of household refuse but there are fees for brush, construction and demolition debris.

Composting - Residents and landscapers bring leaves to a small site at the landfill and can take the finished compost free of charge.

STOP Program - There was no scheduled STOP date in 1989. The town has purchased a building at the landfill to house a permanent STOP facility and is waiting for DEC to approve the permits.

Town of Smithtown

Recycling - Mandatory curbside pickup for metal cans, glass bottles, newspapers and plastic. Recyclables are taken to the

municipal services facility at Kings Park for processing. Town Hall offices are recycling office paper.

Composting - Smithtown hopes to begin composting brush in Summer 1990 and add leaves in the fall. The Town has applied for DEC permits for its site.

STOP Program - No STOP dates were scheduled in 1989. As of March 1990, no dates for 1990 have been set but it is anticipated that a date will be scheduled for this year.

Town of Southampton

Recycling - Mandatory recycling of glass, metal cans, cardboard and mixed paper such as office and computer paper, magazines and catalogues. Approximately 50% of residents drop off their recyclables at the landfill or transfer stations; the remaining 50% is collected by private carters. Town offices and local schools are recycling office paper. Malcolm Pirnie is preparing a Solid Waste Management Plan for the Town.

Composting - Composting of yard waste takes place at the landfill and transfer stations.

STOP Program - A permanent STOP facility (storage building) has been delivered and permit applications have been submitted to DEC.

Town of Southold

Recycling - A drop off station at the town landfill accepts newspapers, glass, metal cans, plastics, waste oil, tires and whit goods. A voluntary program to collect household batteries has been arranged with local stores which collect the batteries and bring them to the landfill. The Solid Waste Management Task Force, made up of town council members, is working with Dvirka and Bartilucci Consultants to develop a solid waste management plan for the Town. Town officials have indicated an interest in cooperating with the Town of Brookhaven in its Resource Recovery Facility. Residents and carters are not charged for disposal of household refuse but there is a $.01 per pound charge for landscaping, construction and demolition debris.

Composting - A 3,000 cubic yard site accepts leaves and brush for composting; a $.01 per pound fee is charged. No state permits are required for a site this size.

STOP Program - The Town has had a permitted, permanent facility for the last two years. The facility is opened the same hours as the landfill.

NASSAU COUNTY

Town of Hempstead

Recycling - Newspapers, metal cans and glass are collected at curbside and are taken to a transfer station where they are picked up by various dealers. Town Hall offices will begin recycling office paper in April 1990.

Composting - Town of Hempstead has no composting facility.

STOP Program - Two STOP dates were scheduled in 1989. No STOP dates are planned for 1990 because the Town is anticipating the opening of the Nassau County permanent STOP facility sometime in 1990.

Town of North Hempstead

Recycling - Glass, metal cans and newspapers are collected at curbside town-wide. Drop off stations throughout the town accept these items as well as plastics. A temporary municipal recycling facility opened in the summer of 1989 and is used for recycling plastics. Tires, white goods, scrap metal and waste oil are collected voluntarily at the landfill. Town offices recycle office paper. The Town works with private companies to set up office paper and corrugated cardboard recycling programs.

Composting - Town of North Hempstead has a cooperative arrangement with the Town of Oyster Bay to send leaves for composting to Oyster Bay in exchange for tires to be shredded.

STOP Program - Ten STOP dates were scheduled in 1989 and ten more are planned for 1990 at various locations throughout the Town.

Town of Oyster Bay

Recycling - 75,000 households are participating in the mandatory curbside pick up of glass, metal cans and newspaper. A pilot program for recycling plastics in 6,000 homes will begin in April. Town Hall offices are recycling office paper. A brochure on setting up an office paper recycling program is being prepared. Oyster Bay is currently shipping all non-recyclable waste off Long Island for $111 per ton.

Composting - The town has a 10 acre permitted composting site in Syosset. Oyster Bay has a cooperative agreement with North Hempstead to exchange tires for leaves.

STOP Program - Ten STOP dates were held in 1989 and ten dates are scheduled for 1990.

Existing Cooperative Efforts on Recycling

Association of Long Island Recycling Officials (ALIRO) - was formed about three years ago as an informal network to share information and to try to develop common markets. Representatives from the Towns and two cities on Long Island serves on the Board of Directors, and meet monthly.

Nassau County established a Recycling Board in September 1989 and hired Guy Mazza as recycling coordinator. The County opened its a permanent STOP facility in 1990. Individual towns will be encouraged to continue to run their own STOP programs. The County facility is intended to augment existing programs. It is located in Hicksville and is opened every Saturday. The County is supporting glass/asphalt projects and reuse of construction/demolition debris in some County road construction projects. The Town of Oyster Bay is composting leaves from the County at the Town's compost site. A pilot program to recycle office paper began in January, 1991 in certain County offices. The County purchases recycled paper; approximately 20% of the copy paper and all of the stock for publications is recycled paper.

North Hempstead/Oyster Bay Towns - are in the third year of a cooperative arrangement of exchanging tires to be shredded and sold, for leaves to be composted.

Suffolk County established a Recycling Unit within the Department of General Services in January 1989 with David Newton as Recycling Coordinator and Tracy Pollak as Research Technician. Due to fiscal constraints in the Suffoik County budget, this Unit will close as of March 31, 1991. The work of the Recycling Unit has encompassed public and professional education, marketing studies, economic development activities, legislative review and intergovernmental coordination. The recycling activities included sponsorship of seminars on waste paper markets, yard waste composting and commercial solid waste recycling; preparation of market studies for recycling tires, waste paper, plastics, construction and demolition debris; cooperative marketing of recyclables, use of recycled materials in landfill closures; reuse of commercial and industrial wastes, and compiling a directory of agencies and organizations that provide economic development services and assistance for recycling projects. Projects for 1990 included preparation and distribution of public education material on plastics recycling and the STOP program; completion of the studies on quantity and quality of recyclables collected by Suffolk County Towns; alternate recycling markets; recycling construction and demolition debris; solid waste reduction opportunities, methods and programs; publication of a directory of Long Island companies (brokers, processors, manufacturers) who handle recyclables as well as continuing to work with state, county and local governments to promote recycling activities.

East End Recycling Association - consisting of the Towns of Riverhead, Southold, Southampton, East Hampton and Shelter Island, was established with a two year grant of $255,000 from DEC. The purpose of the association is to provide public education on recycling programs and enhance the economic viability of these programs through cooperative marketing of recyclables. The existing recycling programs, in terms of what is recycled and the amount, vary considerably from town to town. The differences are due to the level of commitment of the local government, the manner in which wastes are collected (municipal, private carter or individual homeowner transporting materials to a landfill), the size of the population, type of facilities owned by the town and the economic resources available to pay for the program. In 1990, this association plans to continue its public education efforts, to further develop the STOP programs and to assist in preparation of plans for a MRF.

Municipal Recycling Cooperative - has been formed by the Towns of Islip, Babylon, Huntington and Oyster Bay to process, ship and market recycled newspapers for the participating towns. A state grant and local matching funds from the towns will finance the Cooperative's activities.

Recommendations

- Composting yard waste should be a component of each town's solid waste management strategy. Cooperative composting projects among towns should be encouraged.

- All towns should have active STOP Programs. DEC or County Recycling Offices should prepare additional generic information on hazardous substances in household products and distribute it to consumers. A central telephone hotline should be established for STOP Programs with information on location, dates and times.

- The Environmental Facilities Corporation (EFC) should be better utilized in providing assistance to towns in designing MRFs to make recyclables ready for markets and in preparing Solid Waste Management Plans for the Towns.

- EFC, DEC, and the Department of Economic Development should sponsor outreach activities, including technical assistance in designing and developing commercial recycling programs for corrugated cardboard, office paper and construction and demolition debris, as well as preparing information on cost avoidance of such programs.

- To facilitate recycling by the public, recycling drop-offs should be located in parks, public buildings, and public transportation stations.

RECYCLING ACTIVITIES BY MUNICIPALITY

Region	Municipality	County (1) Recycling Program *	Population County-Wide Recycling Programs		Other (2) Recycling Programs	Population Local Recycling Programs		Recyclables (tons 1989)					
			M	V		M	V	Glass	Paper	Plastic	Metal	Other	Recyclables Totals
1	Glen Cove	M	24,618					0	0	0	0	1,600	1,600
1	Hempstead	M	55,000		Y		8,175	418	5,412	0	271	8	6,110
1	Long Beach	M	34,073					80	1,305	0	540	50	1,975
1	North Hempstead	M	218,824					0	14,564	0	2,364	4,945	21,873
1	Oyster Bay	M	306,000					3,865	17,681	0	1,000	40,388	83,034
1	Babylon	M	203,483					20	28,075	1,600	7,308	74,470	103,474
1	Brookhaven	M	420,000		Y		24,000	55	12,304	0	3,567	185	16,111
1	East Hampton	V		16,000				45	348	0	1,939	144	2,477
1	Huntington	V		201,512				0	9,000	0	4,881	4,581	18,562
1	Islip	M	298,897					0	19,200	0	0	17,155	36,355
1	Riverhead	V		22,500				7	185	4	890	525	1,611
1	Shelter Island	V		2,400				0	350	0	12	388	760
1	Smithtown	M	116,683					286	25,338	47	3,945	1,304	30,981
1	Southampton	M	50,000					286	1,703	69	1,007	183	3,247
1	Southold	V		21,400				0	425	0	548	9,940	10,913

M - Mandatory
V - Voluntary

Notes: Paper may include old Newspaper, old corrugated cardboard, old computer paper
Metal may be ferrous, non-ferrous, aluminum
Glass may include clear, colored or any combination
Plastic may be any specific resin type or any combination
Other items may include tires, used oil, C&D materials, etc.

Source: New York State Department of Environmental Conserv
Division of Solid Waste
State Solid Waste Management Plan 1990/91 Update

RESOURCE RECOVERY PROJECTS ON LONG ISLAND

LOCATION	PROJECT IDENTIFICATION	CAPACITY T/D	STATUS	CAPITAL COST (millions)	EQBA FUND	PROCESS	PRODUCT	POLLUTION CONTROLS
Hempstead Town	Hempstead Resource Recovery Facility Facility	2,319	American Ref-Fuel operational since October 1989.	252	2.0	Mass burning waterwall technology (VKW)	Electricity	Dry scrubber Fabric baghouse
Glen Cove City	Glen Cove	250	Operational since 1983. Currently negotiating a consent order with DEC to modify facility	23.5	(Pure Waters Esti. 1.765)	Mass burning in stoker-fired furnace with sewage sludge	Steam and Electricity	Electrostatic Precipitators
North Hempstead Town	Port Washington	990	SEQRA Process complete. Abasco & Babcock & Wilcox Vendor. Awaiting DEC permit issuance. *	120	4.0	Mass burning waterwall technology	Electricity	Acid gas scrubber Fabric baghouse
Islip Town	Islip	518	Islip Montenay Corp. is operator Preformance testing completed in March 1990. Commercially operational after testing verified	38.4	7.5	Mass burn water wall technology (O'Connor Combustor)	Electricity	Acid gas scrubber Fabric baghouse
Babylon Town	Babylon	750	Ogden-Martin facility. Operational since April 1989.	89.5	14	Mass burn waterwall technology	Steam/ and Electricity	Dry scrubber Fabric baghouse
City of Long Beach	Long Beach	200	Operating since 1987.	—	—	Mass burn waterwall technology	Electricity	Electrostatic Precipitators
Huntington Town	Northport	750	Ogden-Martin is the vendor; permits were issued in April 1989. Completion date estimated April 1992.	89.5	14.0	Mass burn technology	Electricity	Scrubber, Fabric baghouse Thermal de NOx
Oyster Bay Town	Old Bethpage	1,080	American Ref-Fuel vendor. Awaiting DEC permit; hrngs to begin shortly. Est.completion '92	150	—	Mass burn technology	Electricity	
Brookhaven	CERF, Compost, Energy, Recovery Facility	1,200	Draft Request For Proposal complete. Generic EIS is complete. **	250	8.25	Multi-process facility: Mass burn, waterwall recycling, composting	Electricity Composting	NOx treatment acid Gas scrubber Fabric baghouse

SOURCES: Division of Solid and Hazardous Waste
Bureau of Resource Recovery
New York State Department of Environmental Conservation
Albany, NY 12233
September 1987

Individual Municipalities, March 1990

* Contract has been cancelled. Town of North Hempstead is considering non-incineration alternatives

** Towns of Brookhaven and Hempstead have a tentative cooperative agreement to share burn capacity at the Hempstead facility in exchange for ash disposal at Brookhaven's landfill.

AN ASSESSMENT OF RECYCLING IN LONG ISLAND SCHOOLS

Recycling involves the separation and reuse of materials from our waste stream, including but not limited to paper, aluminum, glass, and plastic. Recycling is important for many reasons; it allows us to conserve our precious natural resources, save energy, and helps us to avoid garbage disposal techniques that can pollute our land, water, and air.

In order for the public to accept recycling, a change in philosophy towards our resources must occur. Many believe we live in a society of unlimited resources, but we are beginning to realize that our resources are indeed finite. A major obstacle in the implementation of a recycling progam will be the lack of understanding by the public on why we should recycle. Education is the key to environmental responsibility. By targeting children that have not developed wasteful habits, we can help promote a positive attitude toward recycling.

With these thoughts in mind, a report on the status of recycling in Long Island schools has been conducted to determine the needs of schools and ways to increase participation in recycling activities.

Status of Recycling on Long Island Schools

Out of the 129 school districts on Long Island that received our survey we, recevied 61 responses. Seventeen of the school districts that replied to the survey had full recycling programs, with every school in the district participating. In nine school districts some of the schools in the district participated in the program, but the district plans to include all the schools in the program in the future. In two districts some schools in the district recycle, and there are no plans to expand the program district-wide. Eleven school districts report that they are in the planning process for a program but presently do not participate in any recycling activities. Twenty-two school districts do not recycle at all, and do not plan to.

The following chart is a list of recyclable materials followed by the number of schools that currently recycle each material, as well as schools that will begin to recycle these materials during the 1990-1991 school year.

Material	Currently recycle	Plan to for '90-'91
Office paper	95	13
Newspaper	27	0
Cans	68	3
Glass	54	1
Plastic	22	0
Styrofoam	7	7
Corrugated Cardboard	42	10
Batteries	0	3

All but three of the 61 school districts that replied were interested in a booklet with information on how to initiate a recycling program. The three that did not want a brochure already have successful recycling programs. Several school districts voiced specific requests; many wanted help from the town, including collection of recyclables and materials for collection. Others wanted someone with expertise in waste management to help the school form a solid waste management plan, and one school district requested educational materials on recycling to become part of the school's cirriculum.

Summary of Problems with Recycling in Schools

Lack of technical assistance available to school districts interested in recycling. This makes the initiation of a program slow and difficult. In fact, most schools that do not recycle cited this as the sole reason for their lack of a program. To quote one administrator, "We felt like we were reinventing the wheel."

Difficulty in finding a reliable market for recyclable materials such as for cardboard, catalogues, magazines, plastics, bottles, cans, and newspaper. Problems cited by schools include the difficulty of finding a vendor, the lack of commitment received from the receiving companies, difficulty in receiving a payment for paper, and, with corrugated cardboard, some schools did not generate enough volume of material for recycling to be profitable for the vendor.

Sorting material to be recycled places an additional burden on custodial and kitchen staff. One school noted that recycling involves one or more persons for one full day each week. Cosequently, problems with staff have also been cited.

In order to sort recyclable materials, classrooms and offices need bins to sort or store the materials. Bins are also needed when all collected materials are combined in one space for pick up. In some instances, if the school has an arrangement with a private hauler to pick-up recyclable material, such as paper, the hauler will provide the bins free of charge. However, this depends on the company used and the materials being collected. In some school districts the town will supply bins to the schools. However, many schools have noted that these bins are too small for collection of recyclables, and that not enough bins were provided. Extra bins can be expensive for a school district with a limited budget, ranging from five to seven thousand dollars.

Once recyclable materials have been collected, the school district must decide where to store the materials. This raises several difficult questions; where to find a place to store materials if space is limited, how to store paper, a "flammable material" and still comply with fire code regulations, and how to store trays and other materials from the kitchen for periods of time as long as a week without creating unsanitary conditions.

In order for a recycling program to work, a volunteer teacher must be motivated to direct activities. Even when a teacher is interested it can be difficult to keep them active.

One school has found that carter requirements for recycling raises insurance questions.

Summary of benefits associated with recycling

The heightened awareness of environmental issues for both students and faculty. Individuals in the learning community become aware of their personal responsibility for the environment.

High participation rates and student enthusiasm for recycling.

Student run organizations have been particularly effective in initiating programs in recycling, such as the Student Council.

No cost is involved or the cost is minimal if materials for recycling are supplied and collected by the town or by the carter that picks up the recyclable materials.

Program can pay for itself or actually become a source of revenue for the school district. Once recycling is implemented a school can cut down its volume of refuse by several bags a day. The costs offset by decreased carting costs can be saved for refuse disposal. In turn, the large decrease in refuse greatly reduces the amount of plastic bags used by the district for refuse disposal.

Examples of Existing School Recycling Programs

According to responses from the survey, a school district will adopt one of three recycling programs. First, the town provides materials for collection of recyclable materials and picks the recyclables up from the school district. Second, the school collects the materials independently and and brings the materials to a town recycling facility. Third, the school makes arrangements with a private contractor to collect the materials, who may or may not provide materials to facilitate the collection of recyclables. Below are examples of each system.

East Islip Union Free School District

East Islip recycles food service styrofoam and office paper. Assistance for startup of the styrofoam recycling was provided by the Council for Solid Waste Solutions and Amoco and Mobil Corp., who offered one year of sponsorship for carting costs and bagging. The collected materials are sent to Polystyrene Recycling, Inc. for processing. The cost of this program is approximately $6,500/year without donations. However, the costs can be offset by decreased carting costs. The district also recycles office paper. The paper is collected and sent to a facility in Ronkonkoma. This program is actually a revenue producer. Several schools that sell their paper in this manner report a payment of $80-$100/ ton of office paper.

Massapequa Union Free School District

Massapequa participates in the Town of Oyster Bay S.O.R.T. program, "Sort Oyster Bay's Recyclables Today." The Town supplies the schools with recycling containers as per district requirements. S.O.R.T. trucks enter school grounds and pick up recyclables once a week, and bring the materials to S.O.R.T. transfer facility. At present, materials collected include metal and glass. The district has found no financial gain or loss from the program.

Rockville Centre Union Free School District

The district recycling program was initiated when the Incorporated Village changed their policy to charge non-profit organizations for refuse pickup. The district participates in the Village recycling program for newsprint, metal cans, and glass. The district also wanted to recycle paper, and found New York Paper Stock in the phone book. N.Y.P.S. supplies each building with large laundry bins on wheels, and pays the district $40/ton of white paper collected and $90/ton for computer paper. To collect paper from classrooms, the district saved mimeo and ditto paper boxes and placed one in each classroom with a sign stating "white paper only." Natonal Waste Technologies recycles the districts plastic refuse. Metals are scraped for their worth or are taken by one of the scrap metal companies in Westbury or by Village Sanitation. The district does not have any problems with its program, except that it wishes to expand the program to include magazines and cardboard.

Long Beach City School District

Long Beach City School District collects recyclable paper products. The recyclables are saved in each classroom and collected once a week by students and taken to a central collection location. Every Friday a district maintenance truck brings the materials to a Long Beach City Recycling Area. The district reports no out-of-pocket district expenses for the program.

Town Assistance Available for School Recycling Programs

NASSAU COUNTY

Hempstead

Long Beach

The Town of Long Beach is not involved with recycling in the school district at this time. Informal presentations have been made to schools on occasion.

North Hempstead

The Town of North Hempstead conducts an "in school household battery collection program" to recycle batteries.

The Town has visited 9 school districts, 7 of these with a Recycling/Conservation Team for elementary schools. The Town has also had programs in high schools, junior highs, and middle schools which have included education and coordination activities.

Oyster Bay

The Town of Oyster Bay collects metal and glass from schools as part of its S.O.R.T. program, Separate Oyster Bay's Recyclables Today. All schools in the town were sent literature asking for cooperation in the recycling program. The Town will provide schools with bins to collect recyclabes, as per district requirements. Town trucks service the schools once a week. The program, to date, is not mandatory.

The Town will assist with school recycling education.

SUFFOLK COUNTY

Babylon

The Town will meet with individual school districts and provide a comprehensive list of recycling companies. However, it is the school district's responsibility to investigate and determine the program suitable to their needs. The Town is presently investigating polystyrene recycling for the districts.

All Town of Babylon school districts are part of the recycling education program.

Brookhaven

The Town of Brookhaven encourages the school districts to participate in voluntary paper recycling programs, but the Town does not supply materials for collection of recyclables or pick up the material. The Town also provides a brochure with information on how to start a program, and contacts for disposal of materials collected.

The Town has an education specialist who presents programs on recycling to elementary, junior, and high school classes in all the town school districts.

East Hampton, Riverhead, Shelter Island, Southampton, Southold

The East End Recycling Association coordinates recycling programs for school districts in these towns. The Association promotes organizations to separate their white paper, and organizes a private vendor to collect the paper at no cost. The Association plans to expand its program to include other materials, scuh as beverage containers.

The Association makes educational presentations to schools and provides them with informational curriculum, video's, and other educational support.

Islip

The Town of Islip will assist schools by providing information to the coordinator of a recycling program. The Town will also donate pails for classroom separation.

The Town will assist in educating staff and students once the program is set up.

Huntington

The Town of Huntington will provide schools that want to recycle paper all of the necessary bins and a hauler to collect the recyclables. The Town currently collects 500 pounds of paper per week from a total of 22 schools.

The Town has a recycling educator that will work with students and faculty.

Smithtown

All schools in the Town of Smithtown are now required to recycle newspapers, corrugated cardboard, glass bottles and jars, plastics, metal, and aluminum cans co-mingled together and separated from other wastes for separate collection by a town licensed carter, and the material is taken to a town recycling facility.

Slide presentations are available upon request.

Other Assistance Available For Recycling Programs

Nassau County

Nassau County has a recycling task force. The office will provide technical assistance to a school if the school contacts the office. The coordinator will give schools a verbal picture of how a recycling program is set up, and a verbal list of vendors. To date, no printed materials are available. In spring of 1990, Nassau County offered to coordinate "recycling week". The purpose of the week was to show school districts that recycling is not difficult. The County provided the schools with a vendor to pick up paper collected the last week of school, when students dispose of the most refuse. In the future the task force would like to compile information for schools.

Suffolk County

Suffolk County has a recycling unit. The office responds to requests for information from schools and refers the people to the town. While no printed materials are currently available specifically for schools, the office notes that it is currently compiling a manual on recycling for businesses and institutions.

The Council for Solid Waste Solutions

The Council, which deals mostly with plastics, will offer technical assistance to schools interested in starting a plastics recycling program. The Council will help identify markets for schools and coordinate collection.

Recommendations

State, county, and local organizations should coordinate information so schools can have one coherent plan for recycling rather than receive conflicting information.

Once the organizations agree on a plan, a booklet should be prepared and distributed to all schools on how to initiate a recycling program.

Towns should determine the feasibility of including school districts in their mandatory source separation program. Schools will benefit by having the town collect the material.

Offer school districts a financial incentive provided they purchase the large bins needed for recycling by a certain date.

NEW YORK STATE LEGISLATIVE COMMISSION ON WATER RESOURCE NEEDS OF LONG ISLAND

SENATOR
CAESAR TRUNZO
Co-Chairman

SENATE OFFICE

GEORGE PROIOS
Executive Director

MARYELLEN McNICHOLAS
Assistant Director

June 25, 1990

Dear Superintendent:

The New York State Legislative Commission on Water Resource Needs of Long Island is preparing a reference manual for schools that would like to initiate recycling programs. By doing so we hope to facilitate school participation in such programs. For this reason, we request that you return this questionnaire by July 15, 1990 so that we can address your concerns in the manual.

Thank you for your cooperation.

Sincerely,

Caesar Trunzo
Senator

STATE OFFICE BUILDING — HAUPPAUGE, NEW YORK 11788 — (516) 360-6206

NEW YORK STATE LEGISLATIVE COMMISSION ON WATER RESOURCE NEEDS OF LONG ISLAND

SENATOR
CAESAR TRUNZO
Co-Chairman

GEORGE PROIOS
Executive Director

MARYELLEN McNICHOLAS
Assistant Director

SENATE OFFICE

School District: _____

Address: _____

Town: _____ Zip Code: _____

Phone: _____ Superintendent: _____

Contact Person: _____

Please attach additional pages if necessary.

1. Do any schools in your district recycle? Yes_____ No_____

   Please list names of schools that recycle and a contact person for each school.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Briefly explain the recycling program; include information on how the program was implemented, financial and technical assistance provided to the school, cost of the program, materials that are collected, and the final destination of the recyclable material collected. Please indicate whether you are part of a town recycling program or you have a separate arrangement.

Explain problems encountered with the program (i.e. cost, market development).

Explain successes of the program (i.e. profit, increased awareness of environmental issues, high participation rate).

2. Do schools that do not recycle plan to recycle in the future?

Yes_____ No_____

If yes, please list the schools, expected date of implementation, and the type of program planned.

3. Would you like information on how to initiate a recycling program?

Yes_____ No_____

NEW YORK STATE LEGISLATIVE COMMISSION ON WATER RESOURCE NEEDS OF LONG ISLAND

SENATOR
CAESAR TRUNZO
Co-Chairman

GEORGE PROIOS
Executive Director

MARYELLEN McNICHOLAS
Assistant Director

SENATE OFFICE

June 26, 1990

Dear Town Recycling Coordinator:

The New York State Legislative Commission on Water Resource Needs of Long Island is preparing a reference manual for schools that would like to initiate recycling programs. By doing so we hope to facilitate school particiation in such programs. For this reason, we request the following information from your town by July 15, 1990 to assist us with the formation of the manual.

Thank you for your prompt attention to this matter.

Sincerely,

April J. Horowitz

Enc.

STATE OFFICE BUILDING — HAUPPAUGE, NEW YORK 11788 — (516) 360-6206

Name:_____

Address:_____

Town:_____Zip:_____

Phone:_____

Please attach additional pages if necessary.

1. What schools are recycling in your town? Please include name of contact person for each school if available.

_____

_____

_____

_____

2. Do you assist with these programs? Please explain (i.e. education, coordination, town collection of materials, marketing, contracting).

_____

_____

_____

_____

_____

_____

3. In addition, we would like to know if your town plans to include the following establishments in a recycling program when mandatory source separation is enforced. If so, please describe what materials will be collected and by whom.

*Apartment Complexes
*Schools
*Hospitals
*Town office buildings
*Other institutions

INACTIVE HAZARDOUS WASTE SITE REMEDIATION UPDATE

With the realization of the catastrophic impacts resulting from improper hazardous waste disposal practices at sites such as Love Canal, State and Federal legislation was passed creating the Superfund Programs. The Abandoned Sites Act of 1979 was the first state law creating the state registry of inactive hazardous waste sites. Laws creating New York State Superfund were passed in 1982 and amended in 1985. The Environmental Quality Bond Act of 1986 provided additional funding for site remediation. Identification and remediation of inactive hazardous waste sites has been a major environmental problem in the 1980's and will continue to be so in the future. The scope of the problems associated with inactive hazardous waste sites is much larger, more complex and difficult to clean up than ever imagined when the Superfund Programs began.

The process of site investigation and remediation has occurred slowly and only a small percentage of known sites have been cleaned up and delisted. Furthermore, over 200 segments of the aquifer in Region I have been identified as contaminated with substances considered hazardous. These segments are not included on the State Superfund Registry. Most aquifer segment contamination was discovered through routine monitoring of existing wells at those locations.

Modifications and improvements must be made to the Hazardous Waste Site Remediation Program so that all known sites are included in the Registry and cleaned up and/or contained in a timely fashion. In addition, all known contaminated segments of the aquifer should also be evaluated for inclusion on the Registry. In order to accelerate the rate of remediation, specific time limits for completion of each phase of site investigation and enforcement activities need to be established.

Threats to Long Island's aquifer from as yet to be remediated hazardous waste sites are significant. Ingestion of pollutants in the water supply is one of the pathways examined when determining if a site poses a threat to the environment, warranting inclusion in the Superfund Program. Groundwater contamination is frequently listed in the assessments of environmental problems at sites on Long Island. It is for this reason that the Commission tracks and reports on the status of hazardous waste sites on Long Island. The following information is a summary of the status of Long Island's hazardous waste sites.

Long Island In Comparison To The Rest Of The State

DEC has divided New York State into nine Regions. Nassau and Suffolk Counties have been designated as Region I. According to the January 1991 Quarterly Report of Hazardous Waste Sites, there are a total of 1076 sites listed on the State Registry for all nine Regions. Out of this total, Region I has 143 sites. Although Region I is the second smallest region in terms of actual size, it is fourth in the number of sites listed.

DEC Region	Number of Sites	
	Jan.90	Jan.91
1	148	143
2	29	30
3	182	172
4	81	76
5	80	70
6	60	60
7	137	131
8	159	157
9	252	237
Total	1128	1076

Since the start of the State Superfund, a total of 179 sites have been listed in Region I. Of these, 36 have been delisted; 35 required no action and one site was completely remediated. The Federal Superfund Program has its own registry of sites called the National Priority List (NPL). Of the 148 State sites in Region I, 23 are also included on the NPL.

Site Classification for Region I

All sites on the State Registry are given a classification code which indicates relative risk associated with the site and need for remediation. The classifications are:

Classification 1 - causing or presenting an imminent danger of causing irreversible or irreparable damage to the public health or the environment -- immediate action is required.

Classification 2 - Significant threat to the public health or environment --action required.

Classification 3 - Does not present a significant threat to the environment -- action may be deferred.

Classification 4 - Site properly closed -- requires continued management.

Classification 5 - Site properly closed, no evidence of present or potential adverse impact -- no further action required.

Classification 2a - added by DEC. This temporary classification has been assigned to sites for which there is inadequate data to assign them to the five classifications specified by law.

Classification of Sites in Region I from Quarterly Reports

January 1989 to January 1990

Site Classification	Jan'89	Apr'89	July'89	Oct'89	Jan'90
1	0	0	0	0	0
2	51	51	55	55	55
2a	85	86	87	87	87
3	3	3	3	3	3
4	3	3	3	3	3
5	1	1	1	1	0*
TOTAL	143	144	149	149	148

Classification of Sites in Region I from Quarterly Reports

January 1990 to January 1991

Site Classification	Jan'90	Apr'90	July'90	Oct'90	Jan'91
1	0	0	0	0	0
2	55	58*	59**	59	64***
2a	87	84*	81**	81	75***
3	3	3	3	3	1
4	3	3	3	3	3
5	0	0	0	0	0
TOTAL	148	148	146	146	143

Within this time period, three sites, Fumex Sanitation, Spectrum Finishing, Rite-Off, Inc., were reclassified from 2a to 2 because the disposal of hazardous wastes at these sites was confirmed and groundwater standards have been contravened.

** Alsy Manufacturing was reclassified from 2a to 2 because the disposal of hazardous waste was confirmed and groundwater standards were contravened. Two other sites, Shelter Island Landfill and Charles Cardo and Son, were delisted because no hazardous waste was found.

*** Three sites, the Merrick Landfill, Unexcelled Castings and Bridgehampton Materials were delisted because no hazardous wastes were found. Three sites, Three Dimensional Circuits, Magnusonics Devices and American Linen (also known as Active Uniforms) were reclassified from 2a to 2 because the disposal of hazardous waste was confirmed. Two sites, Cantor Brothers, Inc. and U.S. Electroplating Corp., were reclassified from 3 to 2 because the Phase II investigations confirmed the disposal of hazardous waste.

The 2a classification is a temporary code not specified in the

Environmental Conservation Law. When a site is given this code it means that the nature and extent of contamination as well as the need for and scope of possible remediation are unknown. Over half of the sites in Region I are classified 2a. Not until the investigation to determine the nature of the contamination at these sites is complete will an accurate picture exist regarding the impact of hazardous waste sites on the environment.

SUPERFUND STATUS OF LONG ISLAND MUNICIPAL LANDFILLS

LANDFILL SITE-CODE NUMBER	CLASS	NPL	HAZ WASTE DISPOSED	CONTAMINATION	PLUME	MONITORING WELLS *	ECN	REMEDIAL ACTION
Nassau County								
Hempstead/ Merrick 1-30-022	2a	no	S	SW	--	--	--	PII - F/88
Hempstead/ Oceanside 1-30-023	2a	no	C	GW,SW	--	--	--	PI - F/86
N. Hempstead 1-30-025	2	yes	C	GW,AR	--	4u,4d, wkly	GR,LC	ROD/89
Oyster Bay/ Old Bethpage 1-30-001	2	yes	C	GW	yes	--	LC,GR	In progress
Suffolk County								
Babylon 1-52-039	2	R	C	GW	yes	100's	--	RIFS - S/90
Blydenburg (Islip) 1-52-002	2	yes	C	GW,AR	--	1u,3d	GMP,LC	PI - F/86, RIFS - S/90
Brookhaven 1-52-041	2a	--	S	GW	yes	1u,15d;2/yr	GR,LC	PI - F/86
East Hampton at Fire Place Rd 1-52-058	2a	--	C	GW	--	3u,3d;3-4/yr	GR	PI - F/87 PII/PL
East Hampton at Montauk	--	--	--	------	--	--	--	Closed. Consent order signed.
Fishers Island	2a	--	--	------	--	--	--	------
Huntington 1-52-040	2	--	C	GW	yes	3u,1d	GR	PI - F/85
Southampton 1-52-052	2	yes	C	GW	yes	--	--	RIFS - F/89 Design - S/90
Riverhead 1-52-048	2a	--	S	GW	--	12u,0d,mo	GR	
Shelter Island 1-52-045	2a	--	S	GW	--	--	--	PII/PL
Smithtown 1-52-043	2a	--	S	GW	--	--	--	PI - F/87, PII/PL
Southold 1-52-062	2a	--	S	GW	--	3u,3d	GMF	PI - F/87 PII/PL

Source: NYSDEC Quarterly status Report of Inactive Hazardous Waste Disposal Sites, January 1990

* - Number of wells; testing frequency
1 - See key on following page.

Key: Superfund Status of Long Island Municipal Landfills

ECM = Environmental Control Measures

NPL = National Priority List

HAZ = Hazardous

C = Confirmed

S = Suspected

GW = Groundwater

SW = Surface water

AR = Air resources

R = Nominated by DEC, Rejected by EPA

PI = Phase I Study

PII = Phase II Study

RIF = Remedial Investigation

ROD = Record of Decision

PL = Planned

S = Start/year

F = Final Report/year completed

GR = Gas Recovery

LC = Leachate Collection

GMP = Gas Migration Prevention

GV = Gas Vent

u = upgradient well

d = Downgradient well

SEWAGE TREATMENT PLANTS

INTRODUCTION

There are a large number of sewage treatment plants (STP's) on Long Island which discharge treated effluent to either surface or groundwater. The surface water discharges are all treated to meet secondary treatment effluent requirements. In all but two cases the plants that discharge to groundwater treat the effluent to either secondary or tertiary effluent requirements. Many of the groundwater discharge plants which now treat to secondary standards are under orders from the Department of Environmental Conservation (DEC) to upgrade to tertiary treatment. Many other plants will also be required to upgrade their treatment processes as a condition of their State Pollution Discharge Elimination System Permit (SPDES) renewal.

On Long Island nitrogen is the contaminant which must be removed during tertiary treatment to meet the groundwater quality standard of 10 mg/l. Since many of the plants currently in operation are having difficulty in meeting this standard, there has been an increasing reluctance to approve development proposals which would need to utilize groundwater discharge plants. There are many factors in the design, operation and maintenance of a plant which could cause the failure of a plant to achieve adequate nitrogen removal. These factors must be evaluated and recommendations made regarding existing and proposed sewage treatment plants.

The following table lists the number and type of discharge for sewage treatment plants on Long Island.

Table 1

	Nassau	Suffolk
Surface Water	17	15
Groundwater	2	103

As the table shows, the number of sewage treatment plants that discharge to surface water are about the same in both counties, however, Suffolk County has the majority of plants which discharge to groundwater. Since Nassau County is presently sewered throughout most of the county (95% of the population is served by sewers) there is not much change expected in the number of sewage treatment plants there. Suffolk County, with much more land area yet undeveloped, can expect to see proposals for high density housing and other projects which would need to utilize tertiary treatment with groundwater discharge.

Groundwater Discharge Sewage Treatment Plants

Of the 105 plants which discharge to groundwater, approximately 75% use extended aeration for their secondary treatment process. The remainder of the plants are split among other processes as shown in the following table.

Table 2

Treatment Process	# of Plants
extended aeration	74
trickling filter	3
rotating biological contactors	10
imhoff tank	2*
oxidation pond	1
physical-chemical precipitation	1
contact stabilization	8
aerated lagoon	1
Total	100**

*Considered a primary treatment process
**Several plants are unaccounted for in this table since the information regarding the treatment process used was unavailable.

Of these plants, 45 currently use tertiary treatment for nitrogen removal, another 35 are either under orders to upgrade to tertiary treatment or will be placed under consent orders when their SPDES permits are due for renewal. The remainder are exempted under Part 703 of New York State Environmental Conservation Law since they are existing facilities that treat less than 30,000 gallons/day of wastewater.

Plant Effectiveness

SPDES permit standards can vary from plant to plant depending on the degree of treatment required and the quality of the influent. The following are usually included as minimum permit requirements.

Flow	based on plant design
Fecal Coliform (30 day)	200/100 ml
pH	6.5-8.5
BOD 5 (30 day mean)	30 mg/l
Suspended Solids (30 day mean)	30 mg/l
Chlorine Residual (maximum)	2.0 mg/l
Total Nitrogen	10 mg/l (tertiary plants)

Other requirements may be added to the permit as necessary.

Monitoring requirements determine how often these parameters should be sampled, and reporting is done on a monthly basis. Failure to meet any of the permit requirements is a violation of the permit for that month.

It has been reported that up to 50%[1] of groundwater discharge sewage treatment plants are not in compliance with their SPDES permit. Since the operation of a sewage treatment plant requires the careful management of a complex biological system, occasional upsets should be expected. However, a recent study by the Suffolk County Department of Health Services (SCDHS)[2] indicates chronic problems with the operation and maintenance of the majority of the plants in the study area.

The SCDHS study consisted of an evaluation of the design, operation and maintenance of 20 STP's in an area of north central Brookhaven. The plants range in size from small "package" plants, designed for a flow of 30,000 gallons per day, to a county facility designed for 1.3 million gallons per day (MGD). The plants were representative of those found throughout Long Island, including some rotating biological contactors, contact stabilization plants and a majority of extended aeration plants. The problems found in the plants consisted of a variety of operation and maintenance errors, however, there were a few errors that were common to a large number of plants. Twelve of the twenty plants evaluated were in noncompliance with their SPDES permit, and the remainder could have been achieving greater efficiency with minor operational changes.

Only one plant, Suffolk County Sewer District #11, largest in the study area, was operating beyond design flow. The recommendations included upgrading this plant to handle a higher flow. Most of the plants in the study area appear to have been designed very conservatively; some plants had actual flows that were less than half of the design flow. However, this did not guarantee effective operation of the plants. One facility was channeling all of the flow through half of the plant because an aeration tank was out of service. In another plant there was one tank that was unable to handle peak flows, while the rest of the plant had excess capacity. For most cases the design of the plant was not the problem. The most common problems were caused by poor plant operations.

1 Phil Barbato, NYSDEC Save the Bays Conference, June 1988

2 Task report 2.2 Wastewater Treatment Facilities in North Central Brookhaven, SCDHS, H_2M, July 1988

Extended aeration plants, for example, are widely used because they are relatively easy to operate. The long detention times of the waste in these plants usually ensure good treatment, but at a high energy cost. However, in most of the extended aeration plants studied, the mixed liquor suspended solids (mlss) was not maintained at a high enough level to take advantage of the full treatment capacity of the plant. The result is lower plant efficiency and higher sludge production.

For the 12 plants in the study area that had denitrification processes, there were a number of common problems. Ten of the plants studied used attached growth sand bed filters for the denitrification process. The study found that the backwash procedures for cleaning these beds was frequently inadequate. On the other extreme, one plant operator backwashed the beds for so long that the denitrifying bacteria were washed off and the beds were simply acting as a polishing filter. To achieve optimum nitrification, the pH should be raised to the range of 8.0-8.5, yet only two of the facilities had the caustic feed equipment necessary for raising the pH. After nitrification is achieved, it is necessary to have a carbon source as food for the denitrifying bacteria. Methanol is the chemical used to supply the carbon in all of the plants in the study area. In most of the plants it was found that the methanol was not being fed at a high enough rate to optimize denitrification. In some plants methanol was being supplied at only one-third to one-fourth the amount necessary. Another area of operation found to be in need of improvement is Nitrogen sampling points. If nitrogen samples are only taken at the influent and effluent points, the operator cannot reliably determine what stage of the process is failing. Most importantly, samples should be taken at the aeration tanks to ensure that nitrification has completely occurred. Training operators for a better understanding of the denitrification process could also lead to better plant performance.

Finally the SCDHS report looked at the process of chlorination of effluent prior to discharge. Chlorine is added as a disinfectant for any plant that does not use subsurface disposal systems for effluent discharge. The addition of chlorine to the effluent results in the formation of chloro-organic compounds. Since the presence of these compounds in discharges to groundwater is undesirable, it has been argued that chlorination should be discontinued where there is little chance of human exposure to the effluent. This is contradicted by the Long Island 208 Study which looked at virus movement through soils. If virus contamination of groundwater is indeed a problem, then an argument could be made for greater use of chlorination, even when subsurface disposal methods are used.

Suffolk County Department of Health Service Recommendations

The SCDHS report offers a number of recommendations which could be applied to existing and proposed STP's which discharge to groundwater. For existing plants this could include permit modifications with more specific requirements regarding:

- sampling for pH and nitrogen within the plant
- the addition of caustic feed equipment for raising the pH to achieve more complete nitrification
- improvements in the methanol feed system to achieve greater denitrification.

These, together with improved operator training could greatly improve the efficiency of existing STP's.

The question of chlorination is an area that needs further study to determine if viruses are a serious threat to groundwater supplies. If they are, that threat has to be measured against the effect of adding chloro-organic compounds to the effluent of these plants and ultimately to groundwater.

For new plant proposals the report suggested financial bonding to ensure adequate funds for plant maintenance and equipment replacement. Although most plant operators indicated that adequate funds were available for plant maintenance, the condition of many plants indicated otherwise. The fact that many operations were inhibited by low methanol feed rates indicates that the operators may have been trying to save money on chemicals by using a lower rate. A draft version of the report indicated that an upfront fund to cover operations and equipment replacement would range from $4,500/house for a 300,000 gallons per day (gpd) facility to $9,900/house for a 30,000 gpd facility. The use of such a fund would probably be more successful and cause less of a hardship by incorporating the cost into the total price of the home.

The figures shown above also point to an economy of scale with larger size treatment plants. There are many reasons why it would be advantageous to connect nearby developments to a central facility rather than constructing a number of smaller facilities. In addition to lower per unit costs for the users, larger facilities are better able to support the use of full time treatment plant operators. This could lead to greater treatment efficiency than in plants which are only staffed by an operator for a few hours each day. There are also advantages in the type of equipment, such as variable feed rate caustic and methanol pumps which would be too costly for a smaller plant.

Conclusion

There is a need for more efficient operation of groundwater discharge STP's. The problems in these plants are usually caused more by poor operation and maintenance than by bad design. Even the smallest "package" treatment plants incorporated enough design flexibility and tend to overestimate the flow to the plants. This should have assured the capablity to achieve efficient waste treatment. However, poor equipment maintenance, inadequate sampling techniques, lack of pH adjustment, and insufficient methanol feeding ensured that the majority of the plants studied did not meet their permit requirements. The recommendations listed above could go a long way toward solving many of these problems. Although the cost of applying such a study to every plant would be too high, there are some common factors that would apply to all plants of the same design type.

Since the use of STP's is necessary for such projects as high density housing, nursing homes and hospitals, it is critical to ensure that these plants achieve the standards for which they are designed. The applications of such an analysis as was used in the SCDHS study and the implementation of their recommendations should help to achieve the goal of greater groundwater protection.

ON-SITE SEPTIC SYSTEMS

On June 22 and 23, 1989, the Commission held public hearings regarding the effectiveness of on-site sewage disposal systems. We were seeking to ascertain what data exists to measure the environmental impact these systems may have on our ground and surface waters. The following outline lists our concerns and includes relevant facts and comments gathered by the Commission from many local, state and national organizations.

The 1980 census estimated that there were about 22 million septic systems operating in the U.S., serving nearly one-third of the nation's population. Together, they discharge about 1 trillion gallons of wastewater to our soils and groundwater every year; a sobering thought considering that over 50% of all drinking water used in the U.S. is groundwater. In a report issued by the Environmental Protection Agency (EPA) in July of 1986 entitled, Septic Systems and Groundwater Protection, it was noted that groundwater contamination by septic systems has been responsible for disease outbreaks and chemical contamination of drinking water throughout the country. They also estimated that approximately one-half million new septic systems are installed in the U.S. each year. The current census survey will likely reflect a significant increase in the number of septic systems.

I. Environmental Concerns

A. Biological Concerns

1. Bacteria - The Long Island Groundwater Pollution Study, 1972, found that although passing domestic sewage through several feet of sand greatly reduced the coliform bacteria concentration, "densities exceeding the allowable bacteria concentration for potable water still existed at the final observation well group 80 feet downstream from the disposal system." The report also stated, "The presence of coliform bacteria in the upgradient waste slug leads to the conclusion that coliform organisms persist for significant periods and travel distances under groundwater conditions."

2. Viruses- The Long Island Comprhensive Waste Management Plan (208 Study) of 1978 and subsequent studies conducted at Brookhaven National Laboratory (BNL) have shown that viruses can persist for long periods of time and migrate great distances. For example, a 1982 study at BNL stated that viruses were found in all 11 test wells monitored, up to 200 feet away from the septic systems, and 40 feet into groundwater. This study found

that the concentration of viruses decreased as the distance from the septic system increased, but the study did not determine at what distance viruses stopped traveling. In fact, a small amount of viruses were detected in BNL's own water supply well located 220 feet from their sewage treatment plant and 60 feet into the groundwater.

It should be noted that no study has been undertaken to determine whether or not viral contamination of private wells is responsible for human illnesses on Long Island.

B. Chemical Contamination Concerns

1. Inorganic Compounds - Ammonia, phosphorus and nitrogen are the primary chemicals of concern.

   a) Ammonia, a toxic compound found in urine, is the primary source of nitrogen. In the septic tank, aerobic bacteria convert the ammonia to nitrite, then nitrate. As the nitrate passes through the unsaturated zone, some of the nitrate is converted by bio-chemical oxidation back to free ammonia for several feet, then remains unchanged as it continues to travel beyond the cesspool. Nitrate levels are generally found to increase as effluent travels through the unsaturated zone.

   b) Phosphates, derived from detergents and dishwashing compounds, have become less of a problem over the years as the formulation of the active ingredient has changed to biodegradable forms. Phosphorous is a nutrient of concern primarily in freshwater systems and should be considered when disposal systems are being proposed adjacent to lakes, ponds, or streams.

   c) Nitrogen is historically the compound of main concern in sewage. Anaerobic bacteria within a septic tank convert the nitrogen to free nitrogen. Since the level of nitrate is dependant upon the oxidation of free ammonia, and oxygen is not present in large quantities in a septic system, much of this material probably remains unchanged as it travels into the nearby ground and surface waters. This is probable especially when you consider the fact that biological activity decreases significantly in the deeper, sandy soils of Long Island. One illustration to prove this hypothesis was made in a study conducted by the Marine Sciences Research Center at the State University at Stony Brook. Samples of sub-surface groundwater were collected from under the Great South Bay and found to contain very high nitrogen levels, higher than the bay waters above. This sub-surface flow was rich in nitrogen from the leaching of nearby septic systems and fertilization.

2. Organic Compounds- Although it is well known how readily certain synthetic organic compounds can migrate through soils and groundwater, little research has been done to identify how organics interact with various soil types, chemicals in the soil, bacteria, and groundwater. As a result, regulations (aside from a few cases of notoriety, ie. Suffolk County ban on Drainz) virtually ignore the threat of organic compounds released through septic systems.

C. Physical Concerns

1. Many septic tanks and cesspool rings are placed in areas of high groundwater elevations. Current local regulations only require that the bottom of the leaching ring be 2 feet above the groundwater table, determined when a test hole is drilled. There is no requirement that they be located above the highest recorded groundwater levels. As a result, many areas of the Island such as Lake Ronkonkoma, experience cesspool failures whenever groundwater levels rise. This was the case last year when Long Island experienced record high amounts of rainfall.

2. Another major concern is the proximity of leaching rings to surface or coastal waters. Setback requirements do not account for spring or neap tides or storm surges. These systems often fail during such common events. Current regulations do not consider such events.

Summary of Environmental Concerns:

1. The required distance of the leaching rings above groundwater provides very little protection to the groundwater from nitrogen concentrations, and probably little or no protection from viruses and organic compounds.

2. The required setback of the leaching pool to surface waters is not based on scientific studies. Once released from the cesspools, very little nitrogen reduction can take place, thus current setbacks provide little protection to our bay waters.

We need to evaluate the extent of water contamination posed by on-site systems and review the various alternatives available to minimize further degradation. Since on-site systems are the only economically viable option in many rural areas, special efforts need to be made to ensure that they provide the maximum protection possible.

II. Current Issues

A. Septic Problems

EPA estimates that up to one-half of the current systems may not work. In a report prepared by the Illinois Department of Natural Resources in 1989 entitled, Septic Systems and Groundwater Contamination, it was found that problems with septic systems are widespread. The most common problem cited was the failure of the system, reported by 87.5% of the counties surveyed in that state. Failures led to other more severe problems, including contamination of ground and surface waters.

The most common reason for failure was poor soil conditions. Some were too tightly packed, causing backups; others were highly permeable soils resulting in contamination of surrounding waters. Age of the system was cited as the second most common reason for failure. Although most systems should last 15-20 years, many were failing long before their lifetime expectancy due to a lack of maintenance. Illinois recommends having the septic tank pumped every 3-5 years to prevent sludge from building up. On Long Island, no comprehensive program exists which educates the public regarding proper septic tank maintenance.

Improper design, and placement of disposal systems in areas of high water table elevations, wet soils or floodplains were also identified as major reasons for failures. Although no scientific study of on-site systems has been conducted in either Nassau or Suffolk County, it is apparent that the same causes for systems failing in Illinois are also responsible for failure on Long Island.

According to the Liquid Waste Haulers Association, a trade group representing the individual truckers who pump cesspools, approximately 750,000 gallons of septage is collected each day in Suffolk County. The following locations have the capacity to collect the following amounts of septic waste.

Table 1

Location	Gallons/day
Bergen Point	500,000
Huntington	100,000
Riverhead	35,000
E. Hampton	21,000

1. Bergen Point

A close analysis of the largest sludge disposal system facility, Bergen Point, reveals the following information:

The average volume of sludge received per day in 1989 was 372,000 gallons. On 22 separate days, however, more than 450,000 gallons were collected. Several times during the summer, in fact, the plant's capacity was reached early in the day, resulting in the closing of the facility to other dumpers by noon.

The following table indicates the volume of scavenger waste collected over the past several years.

1987 = 122 million gallons

1988 = 118 million gallons

1989 = 154 million gallons

Of the 500,000 gallon capacity, more than half is set aside for contractual agreements. These include:

a) Landfill leachate from Islip & Brookhaven Towns	80-100,000/day
b) Sludge from Suffolk County's own STPs	80-90,000/day
c) Village of Kings Park Village septage	15,000/day
d) Southampton Town Landfill leachate	21,000/day
e) Special industries, ie. Estee Lauder	40-50,000/day

These commitments leave less than 200,000 gallon capacity available for the private hauler to dispose of septage.

2. Geographical Problem Areas

No accurate data exists to determine where private septage is collected from by location. Throughout the Island, however, there appears to be certain areas that are serviced on a regular or more frequent basis. According to the Waste Haulers Assocation, areas that are considered chronic problems include the Island's shoreline, Lake Ronkonkoma, the Jericho Turnpike area of Smithtown and many parts of Wyandanch. The age of these systems, overuse and high groundwater levels are probably the main factors contributing to these failures. Surveys should be taken to first obtain an accurate description of these problem areas, followed by a determination of their causes in order to prevent future problems from occurring.

3. Impact of Weather

Based on the experiences of the Waste Haulers, increased rainfall, especially last summer (1989), results in more complaints regarding cesspool failures and thus, more pumping occurs. This probably explains the reason for the dramatic increase in septage collected by Bergen Point in 1989.

B. Aerobic vs. Anaerobic Bacteria

Until recently, little work had been done analyzing the microbiological community in septic systems and trying to determine what affects it and how it affects the treatment or decomposition. We need to know whether anaerobic bacteria, the primary biological organism responsible for breaking down the human waste materials in septic tanks, are as effective as aerobic bacteria. Recent findings made by Professor William Rathje at the University of Arizona with respect to landfills raise some interesting issues. While it has been known that anaerobic bacteria are the major biological organisms in landfills, his work in excavating landfills has found that many organic wastes buried for decades have undergone virtually no decomposition. He even discovered completely different degrees of degradation of similar materials located next to each other in a landfill. The initial conclusion we can reach, based on a simple knowledge of microbiology, is that subtle changes in the surrounding environment (i.e. pH, moisture, chemicals) has a significant impact on the anaerobic bacteria, affecting their ability to break down substances. Considering the wide range of household chemicals homeowners discard down their drains, it may be likely that septic systems are often "malfunctioning" with respect to the biological processes that should be occurring.

Some generalities we do know:

1. Effluent from aerobic systems is of a higher quality.
2. Aerobic effluent is less likely to clog soils.
3. Aerobic bacteria may rehabilitate a failing system by oxidizing organic matter (without chemicals).
4. Aerobic bacteria can extend the life of a leaching field.

C. State vs. Local Health Department Regulations

When sanitary codes were first written, their primary purpose, if not only purpose, was to protect the public health, not the environment. On Long Island, due to the abundance of sandy soils, it was easier to dispose of septage by placing it in a deep hole. The philosophy of, "out of sight-out of mind", predominated for many years and only now some people are questioning the impact this disposal method may be having on the environment.

The New York State Sanitary Code allows local health codes to be more restrictive. Therefore, on Long Island, Nassau and Suffolk Counties are the sole authority for approving on-site septic

systems. Only one (1) system, however, is commonly approved, regardless of environmental conditions or constraints, specifically, the septic tank-cesspool. Chapter 760 of the Suffolk Sanitary Code requires the construction of a sewage treatment plant when subsoil or groundwater conditions are not conducive to the proper functioning of individual sewerage systems. No mention is made regarding the potential adverse impact to the environment. However, STP's have not been built in areas where chronic problems exist.

Test holes are required for soil data, but they can be placed up to six feet into groundwater. No percolation tests are required, although they are under the State Sanitary Code.

The Suffolk County Code also states that, "In areas subject to tidal action, groundwater elevation shall be measured at mean high tide." Spring tides, storm surges, or the highest recorded tides are not taken into consideration in these regulations. The regulations further state, "if groundwater elevation is less than six feet, a grading plan is required." This seems to indicate that the intent of the regulations is to allow construction, rather than prohibiting it.

Leaching pools must only be 100 feet from surface waters. In a study conducted by Waler at Cornell University, it was found that samples exceeded the 10 mg/l nitrate standard 100 feet from cesspools in well drained soils similar to what we have on Long Island. In a study performed by Childs, nitrogen was found 300 feet from its source. Additional studies in Portland, Oregon indicated that a population density of 5 people/acre gave an average nitrogen concentration in the shallow aquifer of 8 mg/l, with some wells exceeding 10 mg/l.

One other interesting fact uncovered relates to the differences in the state and local sanitary codes with respect to the retention time of waste materials. State regulations note that if the percolation of sewage effluent is greater than one inch per minute, a material to retard this movement must be placed in the leaching fields to allow bacteria more time to break down the sewage. County regulations require that if the sewage does not readily pass through the soils, whatever material is preventing this movement (usually clay) must be removed and backfilled with course grained sands, thus allowing for virtually no contact time between the sewage and any bacteria that may be found at the bottom of the cesspool.

The following excerpts from testimony presented to the Commission by the New York State Department of Health are also quite relevant to this discussion.

In response to the Commission's question, "Are any on-site disposal systems banned in New York,?" we were told, "The septic tank-absorption trench is the conventional system of choice statewide,

and is considered an "alternative" system only on Long Island. "It is the State Health Departments's position that the absorption trench system provides better treatment than leaching pools. Shallow trench systems allow better nitrogen utilization by surface vegetation."

When we asked, "Do septic tanks with tile fields offer more nitrogen removal than conventional cesspools?," they answered, "Yes. The State Health Department considers the absorption trench system to be the conventional system and this system provides far better overall treatment than leaching pools." They further indicated that there were no health reasons why trenching systems or tile fields could not be used in coastal areas on Long Island or where groundwater elevations are high. "It is our position that it is better to use trench systems in these situations because they will provide greater vertical separation to groundwater and allow more complete treatment."

III. Alternative Septic Systems

A. There are over 21 variations of on-site systems that are currently in use in the United States. Additionally, recent advances in septic system technology has provided us with additional alternatives for those situations where conventional systems are inappropriate. These include the Mound Fill System, Buried and Recirculating Sand Filter, Evapotranspiration Systems and Pressure Distribution Systems.

B. Waterless or composting toilets are another alternative that have too often been ignored by conventional programs. These systems have a long history of success, and are sometimes the only alternative for handling domestic wastes. The New York State Department of Environmental Conservation has been successfully utilizing and monitoring several of these systems for the past 5 years at remote wooded sites. Several units were installed on Prospect Mountain and have successfully disposed of wastes from 90,000 visitors annually. Additionally, since the location is remote, it is run entirely by photovoltaic cells. New York City has also installed units in one of its parks.

C. Research and Data Needs

There is a critical need for more research and information regarding the functioning of on-site systems and their impact on the environment. A timely evaluation is being hindered by a lack of available data. We need to avoid, however, "paraylysis by analysis". Information is already available to begin to make certain changes in regulatory programs and increase public education. For example, the Department of Environmental Conservation has already produced an excellent handbook on composting toilets. This document should be made available to all counties throughout the state.

A partial listing of the type of information that should be available follows:

1. Areas experiencing problems need to be identified accurately and a determination must be made as to why septic systems are failing.

2. The impact of rain and tides in high groundwater table areas needs to be assessed.

3. Studies need to be performed to determine how much wastewater is black vs. gray.

4. What, if any, are the health impacts of gray water?

5. How do conventional septic systems compare to alternative systems in reducing:
   a) Viruses
   b) Nitrogen
   c) Organics

6. Localities need to prepare a Generic Environmental Impact Statement (GEIS) to attempt to measure the cumulative impact of both existing and proposed on-site systems.

IV. Conclusion and Recommendations

A. There is a need for better regulatory programs. Zoning, which has been the most recent approach used to address this issue, cannot adequately protect the environment. Zoning is a kind of "blanket" land use control that does not address the most common causes of poor septic system performances, including:

1. Poorly designed systems.

2. Systems installed in inappropriate locations.

3. Neglectful or improper maintenance procedures.

B. Comprehensive Approach

What is needed to address this complex problem is a multi-faceted approach rather than a one dimensional, structural approach. Such a program should include the following items:

1. Maintain low density, or acquire lands that are sensitive to the rapid movement of nutrients and contaminants.

2. Make regulations more comprehensive to accommodate the wide range of conditions under which septic systems are installed.

3. Encourage the use of alternative systems and restrict the use of conventional systems where inappropriate.

4. Individual septic system designs and installations need to be based on "site-specific information", not general guidelines.

5. Septic system management cannot rely exclusively on regulations, especially if the problems arise out of a lack of proper operation, maintenance, or simple neglect. Sanitary codes do little to change behavior, therefore, we need an active education program. For example:

   a) Information needs to be given to residents when a home is purchased.

   b) Maintenance information should be inserted into a homeowner's yearly tax bill.

   c) In areas with high groundwater, an informational notice should be required on all surveys and deeds that warn the prospective buyer that septic systems may not work in these areas.

6. Promote water conservation to improve septic system performance.

Bibliography

1. Childs, K.E., Sampling of Various Waste Migration Patterns in Groundwater, Groundwater, 1974.

2. Cogger, C., Onsite Septic System - Assessing the Risk of Groundwater Contamination, Journal of American Health, Sept 1988.

3. Illinois Department of Natural Resources, Septic System Density and Groundwater Contamination in Illinois, 1989.

4. New York State Department of Environmental Conservation, The Long Island Groundwater Pollution Study, 1972.

5. New York State Department of Environmental Conservation, State-of-the-Art Assessment of Compost Toilets and Grey Water Treatment Systems, 1981.

6. USEPA ,Septic System and Groundwater Protection - An Executives Guide, 1986.

7. U.S. Environmental Protection Agency, Spetic Systems and Groundwater Protection - A Program Manager's Guide and Reference Book, 1986.

8. Vaughn, J.M., Entrainment of Viruses from Septic Tank Leach Fields Through a Shallow, Sandy Soil Aquifer, App. Environmental Microbiology, 1983.

9. Walker, W.G., Nitrogen Transformations During Subsurface Disposal of Septic Tank Effluent in Sands, Journal of Environmental Quality, 1973.

COMMISSION HEARING

ALTERNATIVE ON-SITE SEPTIC SYSTEMS

June 22 - 23, 1989

The Commission sponsored a hearing to study the feasibility of using alternatives to the standard septic tank/leach ring systems so widely used on Long Island. Senator Owen Johnson, Chairman of the Senate Environmental Conservation Committee, joined the Commission in sponsoring the hearing. As a result of these hearings, legislation has been introduced to encourage greater use of these alternative systems in areas where ground or surface water quality is threatened.

The Commission received information from manufacturers of three types of alternative sewage disposal systems; a composting toilet, an incinerating toilet, and a system which purifies wastewater for reuse in flush toilets. There are many areas where such systems may be desirable alternatives to standard systems. In areas where septic systems do not function properly due to high water table conditions, these systems can eliminate the discharge of septic waste and reduce the need for the construction of elaborate raised bed leach field systems. These systems have also been used successfully where water conservation is a prime concern. They also offer protection in areas where development is near wetland systems, by eliminating discharge of septic wastes. Written and oral testimonies were provided by the manufacturers of the three systems. Their descriptions of these systems are summarized below.

The composting toilet works by using the natural decomposition process to break down toilet waste. A dry toilet is connected by a flue-like stack to the composting unit placed below (usually in the basement). The unit is vented to the outside by a fan which removes odors and helps draw air through the waste to maintain aerobic decomposition. The wastes in the tank are substantially reduced in volume and a small amount of composted material is removed on a yearly basis.

The incinerating toilet is also a dry system which uses a heating element to completely incinerate the wastes at a tempreature of 1,400°F. The result is about one teaspoon of ash which is collected in an ash pan and emptied once or twice per week.

Each of the above systems must be used in conjunction with some type of grey water disposal system. The remainder of the liquid household wastes can be disposed of through evaporation boxes, in raised bed flower boxes or in a standard leach field system. The amount of water is substantially reduced so that a smaller disposal system may be used. Furthermore, the elimination of human wastes

from the system reduces the bacterial and nutrient content of the grey water to be disposed.

The third system has been used only in commercial and industrial applications. This system uses a self-contained wastewater treatment system which can be located in a basement. The wastes from standard flush toilets and sinks are conveyed to the treatment system and the treated and disinfected wastewater is reused to provide the water for the flush toilets. The use of potable water in the building is restricted to sinks and fountains. This system is well suited to offices and institutions where the majority of the water used is for toilets. The system needs to be maintained under a contract with the manufacturer. Accumulated sludge must be pumped out periodically and disposed at a treatment plant.

Hearing testimonies were received from the New York State Department of Health (NYSDOH), the New York State Department of Environmental Conservation (NYSDEC), the Town of East Hampton, and the Long Island Association. Their comments are summarized below.

The DEC chronicled their experience with the use of composting toilets at department facilities. Three facilities have been in use for over three years. The areas that were chosen had extremely limited site conditions that precluded the use of standard septic systems. One facility, at Prospect Mountain overlooking Lake George, receives over 90,000 visitors annually. Despite a high rate of use, the facility has performed well. At the start of the third year of use, compost was removed from the facility. It is expected that yearly removal of approximately eight bushel baskets of composted solids will be necessary. The composted solids are currently being disposed of in a sanitary landfill.

Testimony was provided by Richard Svenson of the NYSDOH. The first portion of testimony concerned septic tank/leach ring and septic tank/absorption trench systems used for on-site sewage disposal. The second portion of testimony referred specifically to questions on sewage composting units.

The septic tank/leach ring system used widely on Long Island is not the conventional system for the rest of New York State. These systems are used only on sites where there is a sufficient depth of soil above the groundwater table. In most of New York State the septic tank/absorption trench system is the conventional choice. The Department of Health feels that the absorption trench system is more effective in providing nitrogen removal.

Comments on waterless toilets were confined to composting units. Composting toilets have been used on a limited basis in New York for at least 10 years. The NYSDOH does not consider composting units to be an alternative for use where poor site conditions such as poorly drained soils or high groundwater elevations exist. Composters can only be used where there is little or no water to supply a flush toilet. The department surveyed composting toilet

owners in 1978 and found some problems, however, manufacturers claim to have addressed many of these questions. The NYSDOH recommends using the composted material only on non-food crops. A separate grey water system should be provided, and designed for 50% of the flow for a conventional system. The NYSDOH concluded their comments by stating that composters should be used where all other alternatives have been deemed unacceptable.

The Town of East Hampton provided testimony indicating a great need for alternative systems. The installation of standard septic systems on pre-existing lots close to surface water bodies has created water quality problems. The Town would like the flexibility to require alternative systems in these cases. In the past the Town has been forced to buy lots because alternative septic systems were not approved by the Suffolk County Department of Health Services.

The Long Island Association (LIA) sent a representative who asked that greater emphasis be directed to wastewater reuse systems. The LIA stressed the water conservation benefits and the added benefit of reducing flow into wastewater treatment plants. They indicated that such systems are being used successfully in other states for office, institutional and public buildings. They also noted the use of reclaimed wastewater for non-potable uses, such as irrigation, street cleaning, etc. The LIA asked for legislation modifying building codes so that reclaimed wastewater can be used.

Findings

- Alternative systems such as composters, and incinerators have been allowed in most of NYS. However, new installations approved by the NYSDOH are restricted to areas where water supply is extremely limited.

- According to the NYSDOH absorption trench systems offer greater groundwater protection than the leach ring systems commonly used on Long Island.

- Grey water should be handled by separate systems designed for 50% of the conventional design flow.

- The NYSDOH recommends that material removed from composting units be used only on non-food crops.

- A lack of approved alternatives has resulted in towns having to purchase lots when a standard septic system could not be used.

- Dual plumbing systems are being used successfully in other states, using reclaimed water for non-potable uses.

Recommendations

- Since septic tank/absorption field systems are the conventional choice in the rest of the state, they should be used on Long Island in areas with high water table conditions.

- State and County Department of Health regulations should be modified to allow use of alternative systems when site conditions, not just water supply, are the limiting factor.

- A feasibility study should be undertaken to assess the potential benefits of waterless toilets and other water conservation devices. Legislation has been passed in the legislature (S.4687/A.8073) to direct the DEC to undertake this study.

The Commission appreciates the participation of the following parties who responded to our hearing and contributed testimony:

1. New York State Department of Environmental Conservation
2. New York State Department of Health
3. Town of East Hampton
4. The Long Island Association
5. Bio-Sun Systems Inc.
6. Thetford Systems Inc.
7. Research Products Inc.

Attachment A: Hearing Notice

NEW YORK STATE LEGISLATIVE COMMISSION ON
WATER RESOURCE NEEDS OF LONG ISLAND

SENATOR CAESAR TRUNZO
Co-CHAIRMAN

ASSEMBLYMAN THOMAS DiNAPOLI
Co-CHAIRMAN

THE SENATE ENVIRONMENTAL CONSERVATION COMMITTEE

SENATOR OWEN JOHNSON
CHAIRMAN

NOTICE OF PUBLIC HEARING

ON

ALTERNATIVE ON-SITE SEWAGE DISPOSAL SYSTEMS

SUBJECT: To evaluate the various types of on-site sewage treatment systems.

PURPOSE: To determine whether alternative on-site systems can meet the same health standards as conventional septic tank/ cesspool systems, and whether the alternative systems are environmentally preferable in specific applications.

ALBANY	HAUPPAUGE
Thursday, June 22, 1989	Friday, June 23, 1989
2:00 p.m.	10:00 a.m.
2nd Floor, Hearing Room A	S.C. Legis. Auditorium
Legislative Office Building	Veterans Memorial Hwy.

Persons wishing to present pertinent testimony to the Chairmen at this hearing should complete and return the enclosed reply form as soon as possible.

Oral testimony will be limited to 10 minutes. In preparing the order of witness, the Chairmen will attempt to accommodate individual requests to speak at particular times in view of special circumstances. In the absence of a request, witnesses will be scheduled in the order in which reply forms are postmarked.

Ten copies of any prepared testimony should be submitted at the hearing registration desk.

Public Hearing

Alternative On-Site Sewage Disposal Systems

There are currently two (2) methods for disposing of residential sewage on Long Island. Either the waste is piped to a sewage treatment plant for treatment or they are disposed of on-site through a septic tank/cesspool system. Although a number of different on-site systems have been approved by the New York State Health Department and other local health departments throughout the State, Long Island's health departments currently allow only the installation of cesspool-septic tank systems.

There are, however, at least two major disadvantages of these disposal systems:

1) Nitrate-nitrogen and other pollutants from cesspools, such as synthetic organics, are not adequately treated and contribute to groundwater and nearby surface water contamination.

2) These systems perform unsatisfactorily in areas with high water table elevations.

Please address only those questions to which you have specific data, evidence, or have directly experienced.

1) What alternative on-site disposal systems are currently in use in New York State? Are any specific systems banned?

2) Do cesspools, as currently installed in coastal areas, reduce nitrogen concentrations before entering the shallow groundwater or nearby surface waters?

3) Do wetlands adjacent to coastal residences with cesspools, offer any additional treatment to waste waters?

4) Since septic tanks do offer some nitrogen reduction through the presence of anaerobic bacteria, would a program to regularly pump these tanks result in an increase in nitrogen loadings to the adjoining groundwater or surface waters?

5) Do septic tanks with tile, leaching or absorption fields offer more nitrogen removal, as well as other organic constituents, than conventional cesspools?

6) Are there any compelling health reasons why septic tanks with tile or leaching fields should not be used in coastal areas on Long Island or where groundwater elevations are high?

7) Do any of the additives currently placed in cesspools, such as sulfuric acid or solvents, cause any adverse impact to either the septic system or the groundwater?

8) In order to function properly, a septic tank must be pumped regularly and certain household chemicals such as bleach, should not be used excessively. What educational programs do the county health departments and town planning agencies have to currently advise homeowners as to the proper maintenance required to keep their septic tank/cesspool system working properly?

9) Are current regulations adequate to control or mitigate groundwater contamination by septic tank/cesspools systems? What other measures are needed?

The following questions pertain to "Waterless Toilets" and should only be answered by persons with specific and direct information.

1) How many units are currently in operation in New York State or the United States? Where? For how long?

2) Have regulatory agencies, such as health departments, reviewed the effectiveness of these units?

   a) What degree of maintenance is required to keep such a unit functioning properly?

   b) Can household cleaning products adversely affect the functioning of these units?

3) What is the quality of the compost and wastewater?

   a) How should the homeowner dispose of the residue material?

   b) Can it be applied to food crops, as well as landscaping uses?

4) Should grey water be treated by the system or should it be handled by separate plumbing? Can grey water be used for irrigation?

5) What mechanisms would be used to educate future property owners of special operation and maintenance requirements for their system when a property changes hands?

6) On Long Island, what are the best applications for using a waterless toilet: parks, beaches, residences, cetain businesses, areas of high water table elevations?

7) Is retrofitting existing facilities economical, or should we apply this alternative to new construction only?

a) What are the costs of installation and use of waterless toilets?

b) How much water can be conserved by utilizing the waterless toilet?

8) Should the county or state issue conditional approvals for initiating a pilot project or study, or is there enough data already available?

9) Do these systems incur increased costs to regulatory agencies for reviews and inspections? Can any such increases be offset by permit fees?

SECTION II
DRINKING WATER SUPPLY MANAGEMENT

SAFE DRINKING WATER ACT

According to the 1986 amendments of the Safe Drinking Water Act (SDWA) the Environmental Protection Agency (EPA) was required to establish new standards for 83 drinking water contaminants by 1989. In 1987 the EPA set Maximum Contaminant Level (MCL) standards for nine contaminants (8 VOCs and fluoride). The MCL for fluoride was actually adopted on April 1, 1986 but was included with the eight volatile organic chemicals (VOCs) to complete the first set of nine regulated contaminants which became effective January 1989.

By June 19, 1988 the EPA was supposed to have set standards for the next 40 contaminants. However, the proposed MCLs were held in the Office of Management and Budget (OMB) past that date. Lead and arsenic were originally to be included in these 40, but the EPA decided to address arsenic in the last set of contaminants. Lead was proposed with an MCL of 5 parts per billion (ppb) and a Maximum Contaminant Level Goal (MCLG) of zero on August 18, 1988. No final ruling has been made on the lead proposal to date.

MCLs and MCLGs for the next 38 contaminants (8 inorganics and 30 organics) were finally proposed in the May 22, 1989 issue of the Federal Register and are awaiting a final ruling. The EPA anticipates adoption by December of 1990.

New York State Standards

The New York State Department of Health (NYSDOH), pursuant to the Public Health Law, can promulgate standards for drinking water that are more stringent than the EPA's. On February 10, 1988, the NYSDOH used this power and proposed standards for 53 synthetic organic chemicals. These standards became effective in January of 1989.

Appendix 1 contains a listing of NYS's current drinking water standards. Appendix 2 contains the EPA's proposed 38 standards. In most instances the state and federal standard differ, sometimes drastically. The following tables note the differences between the state standards, federal proposed standards and local guidelines for the 38 EPA contaminants.

Table 1

INORGANICS
(in parts per million)

Chemical	EPA Proposed Standard	New York State Standard	Suffolk County Guidelines
Barium	5.0	1.0	
Cadmium	0.005	0.01	
Chromium	0.1	0.05	
Mercury	0.002	0.002	
Nitrate	10.0	10.0	
Nitrite	1.0	none	
Selenium	0.05	0.01	

Table 2

ORGANICS
(in parts per million)

Chemical	EPA Proposed Standard	New York State Standard	Suffolk County Guidelines
Acrylamide	Treatment Technique	NA	
Alachlor	.002	.05	
Aldicarb	.01	.05	.007
Aldicarb sulfoxide	.01	.05	
Aldicarb sulfone	.04	.05	
Atrazine	.003	.05	
Carbofuran	.04	.05	.015
Chlordane	.002	.05	

Table 2 - continued

ORGANICS

Chemical	EPA Proposed Standard	New York State Standard	Suffolk County Guidelines
Dibromochloropropane (DBCP)	.0002	.005	
o-Dichlorobenzene	.6	.005	
cis-1,2-Dichloroethylene	.07	.005	
trans-1,2-Dichloroethylene	.1	.005	
1,2-Dichloropropane	.005	.005	
2,4-D	.07	.05	
Epichlorohydrin	Treatment technique	NA	
Ethylbenzene	.7	.005	
Ethylene dibromide (EDB)	.00005	.005	.0001
Heptachlor	.0004	.05	
Heptachlor epoxide	.0002	.05	
Lindane	.0002	.004	
Methoxychlor	.4	.05	
Monochlorobenzene	.1	.05	
Polychlorinated biphenyls(PCB)	.0005	.05	.001
Pentachlorophenol	.2	.05	
Styrene	.005	.005	
Tetrachloroethylene	.005	.005	
Toluene	2.0	.005	
Toxaphene	.005	.005	
2,4,5-TP (Silvex)	.05	.01	
Xylenes (total)	10.0	.005 ea	

Impact on Water Supply

In the Commission's 1988 Annual Progress Report, a survey of the projected number of wells affected by the 1988 proposed state standards and the adopted 9 federal standards was performed. The Commission found that of the 420 wells in Nassau County and 678 wells in Suffolk County, 41 and 67 wells would be affected respectively.

This year the NYSDOH's Bureau of Public Water Supply Protection has identified and categorized impacted drinking water sources under eight titles. (See Appendix 3 for a complete explanation of the categories.) As of February 1990, 40 wells in Nassau County and 52 wells in Suffolk County were affected by the above standards. The following is a summation of all the wells affected by organic contamination on Long Island, listed by category. It should be noted that guidelines are recommendations, whereas standards are enforceable. (See Appendix 4 for a full listing of all wells in Nassau and Suffolk Counties affected by organic contamination).

1. "Abandoned For Exceeding Guidelines"
   Nassau County - 6
   Suffolk County - 7

2. "Closed For Exceeding Guidelines"
   Nassau County - 10
   Suffolk County - 11

3. "Open - Exceeded Guidelines, Now Meets MCLs"
   Nassau County - 10
   Suffolk County - 5 (all belonging to SCWA)

4. "Probably Will Exceed MCLs If Kept In Use"
   Nassau County - 1
   Suffolk County - 1

5. "Restricted From Use For Exceeding MCLs"
   Nassau County - 0
   Suffolk County - 3

6. "Treated To Meet MCLs Or Guidelines"
   Nassau County - 16
   Suffolk County - 38

7. "Violates MCL But Needed For Protecton"
   Nassau County - 0
   Suffolk County - 0

8. "Voluntarily Not Used, Could Exceed MCL"
   Nassau County - 32
   Suffolk County - 27

In Nassau County, the 10 wells which were closed were affected by

the following contaminants: (The Contaminant Abbreviation Table can be found in Appendix 5)

111 TCA = 1
TCE = 3
PCE = 3
T12 - DCE = 1
TCE & PCE = 2

The closure of the 11 wells in Suffolk County can be accounted for as follows:

111 TCA = 1
TCE = 2
TCE, PCE and TCA = 4
Chloroform, PCE and TCE = 2
PCE and TCE = 1
PCE and TCA = 1

Figure 1 illustrates the type of contaminants impacting wells in New York State and their relative percentages.

The number of abandoned wells versus treated wells presently in Nassau County is 6 and 16 respectively. In Suffolk County the ratio is 7 to 38. According to the Suffolk County Water Aurhority (SCWA), 29 wells were taken out of service on January 9, 1989 due to the impact of the State's 5 ppb standards. Presently, almost all of the wells have been returned to service through treatment.

Water suppliers are currently in various stages of design and operation of water treatment systems at their well facilities. The two major types of treatment being utilized are air stripper towers and granular activated carbon filters. Air strippers essentially force air through the water to vaporize the contaminants, whereas contaminants are adsorbed onto the carbon as the water passes through a granular activated carbon unit. Since air strippers only remove VOCs whereas granular activated carbon (GAC) units remove all VOCs as well as synthetic organic chemicals (SOC's), it is possible that a GAC may have to be purchased in the future to be used in conjunction with an existing air stripper. It is however, more likely that an air stripper would be purchased to be used prior to GAC treatment to reduce the cost and frequency of carbon replacement.

The initial capitol cost of a GAC Filter is less than half the cost of an air stripper and can be portable, meaning that it can be moved to a different location if a well currently treated no longer has contamination. Long-term maintenance costs for a GAC can be more than that of an air stripper since carbon must be regenerated or replaced at regular intervals. The current cost of carbon removal and replacement is approximately $40,000. This maintenance on a GAC may occur as frequently as every three months or as infrequently as once every couple of years depending on the kind and concentration of the contaminants. Replacement of carbon more frequently than

once a year makes a GAC unit cost ineffective. Cost of disposal of the used carbon filters must also be considered in some instances.

An outdoor air stripper, without a housing unit, costs approximately $750,000. Although an air stripper requires less maintenance, the continuous pumping of the water results in significant electrical costs. In addition, air strippers release contaminants to the air at low levels which may pose a problem as air standards become more stringent in the future. The additional cost of a GAC to reduce air emissions to meet the stricter standards can significantly increase costs.

If the water supplier has low organic levels present and does not anticipate these levels to increase drastically in the next decade, the carbon filters on a GAC Unit can be expected to last longer and therefore the maintenance costs will be relatively low. If this is the case, as with the Franklin Square Water District, which currently has organic levels in the range of 3-6 ppb with an expected increase to 10-15 ppb in the next 10 years, a GAC is a less expensive and more effective investment.

Even though GAC units are initially less expensive than other types of treatment, the initial cost of compliance has still been enormous. To date, SCWA has spent roughly $10 million just on GAC units with an additional $1.7 million spent on the buildings used to house these units.

The SCWA purchased approximately 58 GAC units to comply with the 5 ppb state standards. Currently GACs for 32 wells are operating and an additional 12 are planned to be brought on line by summer 1990. One air stripper in East Northport is currently being utilized by the Water Authority.

The following is an alphabetical listing of towns serviced by the SCWA that have GAC drinking water treatment systems:

TOWNS	# of WELLS	DATE
Bohemia	2	June 23, 1989
Brentwood	1	May 23, 1989
Centereach	1	May 26, 1989
Commack	2	May 18, 1989
East Hampton	4	May 15, 1989
East Northport	2	May 5, 1989
Farmingville	1	June 23, 1989
Great River	1	May 23, 1989

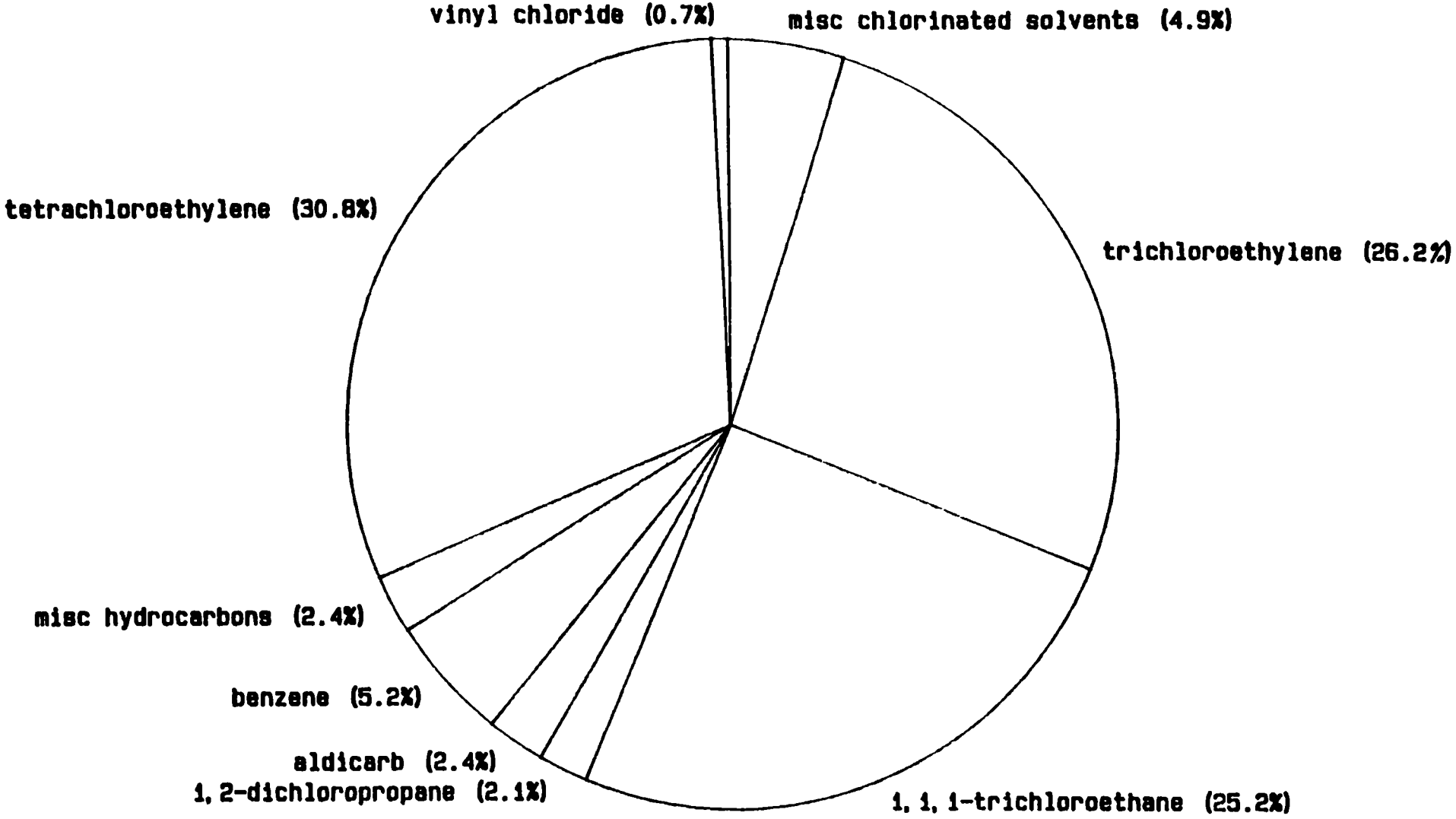
TOWNS	# of WELLS	DATE
Hauppauge	1	April 24, 1989
Holbrook	1	April 25, 1989
Huntington	1	
Huntington Station	4	April 24, 1989 May 23, 1989
Lake Grove	1	April 24, 1989
Lake Ronkonkoma	2	
Mattituck	1	June 30, 1989
Medford	1	May 26, 1989
Mount Sinai	2	May 5, 1989
Northport	1	March 28, 1989

The SCWA has two additional GACs operating on the eastern end of Long Island due to pesticide contamination. The following water suppliers have also installed GACs to remove pesticides:

SUPPLIERS	# of GACs	DATE
Bridgehampton Water Co.	2	June 24, 1985
Browns Hills Estates	1	Sept 30, 1980
Greenport Water Supply	3	Aug. 30, 1980, Nov. 18, 1986 and Nov. 23, 1987

Besides the SCWA in Suffolk County, the Dix Hills Water District has two GACs operating and South Huntington Water District has one GAC (7/10/89) and two air strippers operating.

FIGURE 1: CONTAMINANTS AFFECTING SOURCE
FEBRUARY 1990



SOURCE: NYSDOH Bureau of Public Water Supply Report
Feburary 9, 1990

In Nassau County, according to the NCDOH, 19 wells are currently receiving treatment and 30 additional wells are planned to receive treatment in the near future. The following table lists current (c) and planned (p) treatment types by water supplier.

SUPPLIERS	GAC	AIR STRIPPER
Albertson		(2p)
Bethpage		(2p)
Bowling Green	(2p)	
Franklin Square	(2c)	
Garden City Park		(1c),(3p)
Garden City		(3c),(1p)
Glen Cove City		(1p)
Great Neck North	(1p)	(2c)
Hempstead		(2p)
Hicksville	(2c),(2p)	(2c)
Jamaica		(7c)
L.I. Water Corp.		(1p)
Manhasset Lake	(2p)	(5p)
Mineola		(1p)
Port Washington	(4p)	
Williston Park		(1p)

Findings:

1) The EPA has been slow to adopt the MCLs and MCLGs for the next 38 contaminants.

2) Although additional contamination has been found in some cases, the significant increase in wellhead treatment is attributable to stricter standards which lowered the allowable concentrations of contaminants by a factor of ten.

3) As drinking water standards become more stringent, the cost of compliance continues to rise.

4) Although air strippers and GAC units are able to treat groundwater and reduce organic contaminants to acceptable safety levels, the initial capital costs are overwhelming to the water suppliers. Furthermore, the everchanging nature of groundwater pollution may cause water suppliers currently using air strippers to also purchase GAC units in the future to remove SOCs. To the same extent, GAC users may eventually purchase air strippers to reduce VOC concentrations in order to prolong the life expectancy of the carbon.

RECOMMENDATIONS:

1) The Commission recommends that water suppliers perform long-term contaminant evaluations in order to purchase the appropriate type of treatment unit and prevent additional purchases in the future.

2) In cases where the source of contamination is known, the responsible party or Superfund monies should pay for monitoring wells and treatment systems.

3) DEC should notify water suppliers when it is determined that a violation of an environmental regulation (such as a SPDES discharge violation or hazardous waste dumping) may threaten a public water supply well.

4) New York State should establish an Office of Technological Assessment which, in part, could evaluate treatment systems and provide technical assistance.

5) Water suppliers should investigate the establishment of a state contract for the purchase of water treatment systems in bulk which may be more economical.

Appendix 1

TABLE 1-INORGANIC CHEMICALS AND PHYSICAL CHARACTERISTICS
MAXIMUM CONTAMINANT LEVEL DETERMINATION

Contaminants	MCL (milligrams per liter)	Determination of MCL violation
Primary		
Arsenic	0.05	If the results of a monitoring sample analysis exceed the MCL, the supplier of water shall collect three more samples from the same sampling point within 30 days or as soon as practical. An MCL violation occurs when the average[1] of the four results exceeds the MCL.
Barium	1.00	
Cadmium	0.01	
Chromium	0.05	
Lead	0.05	
Mercury	0.002	
Selenium	0.01	
Silver	0.05	
Fluoride	2.2	
Secondary		
Chloride	250.0	
Copper	1.0	
Corrosivity	Noncorrosive[4]	
Iron	0.3[2]	
Manganese	0.3[2]	
Sodium	No designated limits[3]	
Sulfate	250.0	
Zinc	5.0	
Color	15 Units	
Odor	3 Units	

1. Rounded to the same number of significant figures as the MCL for the substance in question.

2. If iron and manganese are present, the total concentration of both should not exceed 0.5 mg/l. Higher levels may be allowed when justified by the supplier of water.

3 Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets

TABLE 1-INORGANIC CHEMICALS AND PHYSICAL CHARACTERISTICS
MAXIMUM CONTAMINANT LEVEL DETERMINATION (Con't)

4. Corrosivity shall be determined by the calcium carbonate saturation method. Other methods acceptable to the commissioner based on an assessment of pH or acidity of the potable water, temperature, alkalinity, hardness, total dissolved solids, calcium carbonate concentration, sulfate, chloride, galvanic coupon test and/or static laboratory metals test may be used to monitor the level of corrosivity and/or the effectiveness of corrosion control treatment. Corrosive water may be allowed by the State based on justification submitted by the supplier of water which shall include, but not be limited to:

   a data concerning increases in metal concentration of point of use water as compared to source water metal content;

   b distribution water quality characteristics such as calcium, hardness, alkalinity, total dissolved solids, and pH;

   c documentation of the lack of complaints of potential adverse effects; and

   d. a report summarizing, for at least a period of one year, the above.

TABLE 2-NITRATE
MAXIMUM CONTAMINANT LEVEL DETERMINATION

Contaminant	MCL	Determination of MCL violation
Nitrate (as N)	10.0 mg/l[1]	If the results of a monitoring sample analysis exceed the MCL, the supplier of water shall collect another sample from the same sampling point, within 24 hours of the receipt of results or as soon as practical. An MCL violation occurs when the average of the two results exceeds the MCL

1. An MCL of 20 mg/l may be permitted at a noncommunity water system if the supplier of water demonstrates that:
   a. the water will not be available to children under six months of age;
   b. a notice that nitrate levels exceed 10 mg/l and the potential health effects of exposure will be continuously posted in conspicuous places in the area served by the system, within 14 days of the confirmation of an MCL violation;
   c. the State will be notified annually of nitrate levels that exceed 10mg/l; and
   d. no adverse health effects shall result.

TABLE 3-ORGANIC CHEMICALS
MAXIMUM CONTAMINANT LEVEL DETERMINATION

Contaminant	MCL	Type of water system	Determination of MCL violation
Pesticides/Herbicides[3]			
Endrin	0.0002 mg/l	Community and Noncommunity	If the results of a monitoring sample analysis exceed the MCL, the supplier of water shall collect three more samples from the same sampling point, as soon as practical, but within 30 days An MCL violation occurs when the average of the four sample results exceeds the MCL.
Lindane	0.004 mg/l		
Methoxychlor	0.05 mg/l[4]		
Toxaphene	0.005 mg/l		
2,4-D	0.05 mg/l[4]		
2,4,5-TP Silvex	0.01 mg/l		
General Organic Chemicals			
Principal organic contaminant (POC)	0.005 mg/l[4]	Community and Noncommunity	If the results of a monitoring sample analysis exceed the MCL, the supplier of water shall collect one to three more samples from the same sampling point, as soon as practical, but within 30 days. An MCL violation occurs when at least one of the confirming samples is positive and the average of the initial sample and all confirming samples exceeds the MCL.
Unspecified organic contaminant (UOC)	0.05 mg/l[4]		
Total POCs and UOCs	0.1 mg/l[4]		
Vinyl chloride	0.002 mg/l[4]		
Trihalomethanes[2]			
Total trihalomethanes	0.10 mg/l[1]	Community	The results of all analyses per quarter must be arithmetically averaged and must be reported to the State within 30 days of the public water system's receipt of the analyses. A violation occurs if the average of the four most recent sets of quarterly samples (12-month running average) exceeds the MCL.
		Noncommunity	Not applicable.

TABLE 9A-ORGANIC CHEMICALS
MONITORING REQUIREMENTS (Con't)

Contaminant	Specific Contaminants for Analysis	
POCs	benzene[1]	1,1-dichloropropene
	bromobenzene	cis-1,3-dichloropropene
	bromochloromethane	trans-1,3-dichloropropene
	bromomethane	ethylbenzene
	n-butylbenzene	hexachlorobutadiene
	sec-butylbenzene	isopropylbenzene
	tert-butylbenzene	p-isopropyltoluene
	carbon tetrachloride[1]	methylene chloride
	chlorobenzene	n-propylbenzene
	chloroethane	styrene
	chloromethane	1,1,1,2-tetrachloroethane
	2-chlorotoluene	1,1,2,2-tetrachloroethane
	4-chlorotoluene	tetrachloroethene
	dibromomethane	toluene
	1,2-dichlorobenzene	1,2,3-trichlorobenzene
	1,3-dichlorobenzene	1,2,4-trichlorobenzene
	1,4-dichlorobenzene[1]	1,1,1-trichloroethane[1]
	dichlorodifluoromethane	1,1,2-trichloroethane
	1,1-dichloroethane	trichloroethene[1]
	1,2-dichloroethane[1]	trichlorofluoromethane
	1,1-dichloroethene[1]	1,2,3-trichloropropane
	cis-1,2-dichloroethene	1,2,4-trimethylbenzene
	trans-1,2-dichloroethene	1,3,5-trimethylbenzene
	1,2-dichloropropane	m-xylene
	1,3-dichloropropane	o-xylene
	2,2-dichloropropane	p-xylene

[1]Notification must contain mandatory health effect language.

I. Summary of Today's Action

Proposed MCLGs for inorganic chemicals:

(1) Asbestos	7 million fibers/liter (longer than 10 μ)
(2) Barium	5 mg/1
(3) Cadmium	0.005 mg/1
(4) Chromium	0.1 mg/1
(5) Mercury	0.002 mg/1
(6) Nitrate[1]	10 mg/1 (as N)
(7) Nitrite[1]	1 mg/1 (as N)
(8) Selenium	0.05 mg/1

Proposed MCLGs for synthetic organic chemicals:

(1) Acrylamide	Zero
(2) Alachlor	Zero
(3) Aldicarb	0.01 mg/1
(4) Aldicarb sulfoxide.	0.01 mg/1
(5) Aldicarb sulfone.	0.04 mg/1
(6) Atrazine	0.003 mg/1
(7) Carbofuran	0.04 mg/1
(8) Chlordane	Zero
(9) o-Dibromochloropropane (DBCP).	Zero
(10) o-Dichlorobenzene.	0.6 mg/1
(11) cis-1.2-Dichloroethylene.	0.07 mg/1
(12) trans-1.2-Dichloroethylene.	0.1 mg/1
(13) 1.2-Dichloropropane.	Zero
(14) 2.4-D	0.07 mg/1
(15) Epichlorohydrin.	Zero
(16) Ethylbenzene	0.7 mg/1
(17) Ethylene dibromide (EDB).	Zero
(18) Heptachlor	Zero
(19) Heptachlor epoxide.	Zero
(20) Lindane	0.0002 mg/1
(21) Methoxychlor	0.4 mg/1
(22) Monochlorobenzene.	0.1 mg/1
(23) Polychlorinated biphenyls (PCBs) (as decachlorobiphenyl).	Zero
(24) Pentachlorophenol.	0.2 mg/1
(25) Styrene	Zero/0.1 mg/1[2]
(26) Tetrachloroethylene.	Zero
(27) Toluene	2 mg/1
(28) Toxaphene	Zero
(29) 2.4.5-TP (Silvex).	0.05 mg/1
(30) Xylenes (total)	10 mg/1

[1] In addition, MCLG for *total* nitrate and nitrite = 10 mg/1 (as N).

[2] EPA proposes MCLGs of 0.1 mg/1 based on a Group C carcinogen classification and zero based on a B_2 classification.

Proposed MCLs for inorganic chemicals:

(1) Asbestos	7 million fibers/liter (longer than 10 um)
(2) Barium	5 mg/1
(3) Cadmium	0.005 mg/1
(4) Chromium	0.1 mg/1
(5) Mercury	0.002 mg/1
(6) Nitrate[1]	10 mg/1 (as N)
(7) Nitrite[1]	1 mg/1 (as N)
(8) Selenium	0.05 mg/1

Proposed MCLs for synthetic organic chemicals:

(1) Acrylamide	Treatment technique
(2) Alachlor	0.002 mg/1
(3) Aldicarb	0.01 mg/1
(4) Aldicarb sulfoxide.	0.01 mg/1
(5) Aldicarb sulfone.	0.04 mg/1
(6) Atrazine	0.003 mg/1
(7) Carbofuran	0.04 mg/1
(8) Chlordane	0.002 mg/1
(9) Dibromochloropropane (DBCP).	0.0002 mg/1
(10) o-Dichlorobenzene.	0.6 mg/1
(11) cis-1.2-Dichloroethylene.	0.07 mg/1
(12) trans-1.2-Dichloroethylene.	0.1 mg/1
(13) 1.2-Dichloropropane.	0.005 mg/1
(14) 2.4-D	0.07 mg/1
(15) Epichlorohydrin.	Treatment technique
(16) Ethylbenzene	0.7 mg/1
(17) Ethylene dibromide (EDB).	0.00005 mg/1
(18) Heptachlor	0.0004 mg/1
(19) Heptachlor epoxide.	0.0002 mg/1
(20) Lindane	0.0002 mg/1
(21) Methoxychlor	0.4 mg/1
(22) Monochlorobenzene.	0.1 mg/1
(23) Polychlorinated biphenyls (PCBs) (as decachlorobiphenyl).	0.0005 mg/1
(24) Pentachlorophenol.	0.2 mg/1
(25) Styrene	0.005 mg/1/0.1 mg/1[2]
(26) Tetrachloroethylene.	0.005 mg/1
(27) Toluene	2 mg/1
(28) Toxaphene	0.005 mg/1
(29) 2.4.5-TP (Silvex).	0.05 mg/1
(30) Xylenes (total)	10 mg/1

[1] In addition, MCL for *total* nitrate and nitrite = 10.0 mg/1 (as N).

[2] EPA proposes MCLs of 0.1 mg/1 based on a Group C carcinogen classification and .005 mg/1 based on a B_2 classification.

Proposed SMCLs:

(1) Aluminum	0.05 mg/1
(2) o-Dichlorobenzene	0.01 mg/1
(3) p-Dichlorobenzene	0.005 mg/1
(4) Ethylbenzene	0.03 mg/1
(5) Pentachlorophenol	0.03 mg/1
(6) Silver	0.09 mg/1
(7) Styrene	0.01 mg/1
(8) Toluene	0.04 mg/1
(9) Xylene	0.02 mg/1

Proposed BAT for IOCs:

Asbestos	Coagulation/Filtration: Direct & Diatomite Filtration; Corrosion Control.
Barium	Ion Exchange; Lime Softening; Reverse Osmosis.
Cadmium	Ion Exchange; Reverse Osmosis; Coagulation/Filtration; Lime Softening.
Chromium	Coagulation/Filtration; Ion Exchange; Lime Softening (Chromium III only); Reverse Osmosis.
Mercury	Granular Activated Carbon; Coagulation/Filtration[1]; Powdered Activated Carbon[1]; Lime Softening[1]; Reverse Osmosis[1].
Nitrate/Nitrite.	Ion Exchange; Reverse Osmosis.
Selenium	Activated Alumina; Lime Softening; Coagulation/Filtration (Selenium IV only); Reverse Osmosis.

[1] Mercury influent concentrations <10 ug/1).

Proposed BAT for SOCs:

Chemical	GAC [1]	PTA [2]	PAP [3]
Acrylamide			X
Alachlor	X		
Aldicarb	X		
Aldicarb sulfone	X		
Aldicarb sulfoxide	X		
Atrazine	X		
Carbofuran	X		
Chlordane	X		
2,4-D	X		
Dibromochloropropane (DBCP)	X	X	
o-Dichlorobenzene	X	X	
cis-1,2-Dichloroethylene	X	X	
trans-1,2-Dichloroethylene	X	X	
1,2-Dichloropropane	X	X	
Epichlorohydrin			X
Ethylene Dibromide (EDB)	X	X	
Ethylbenzene	X	X	
Heptachlor	X		
Heptachlor epoxide	X		
Lindane	X		
Methoxychlor	X		
Monochlorobenzene	X	X	
PCBs	X		
Pentachlorophenol	X		
Styrene	X	X	
2,4,5-TP (Silvex)	X		
Tetrachloroethylene	X	X	
Toluene	X	X	
Toxaphene	X		
Xylene (Total)	X	X	

APPENDIX 3

DEFINITIONS OF AFFECTED SOURCES

1) "Abandoned for exceeding guidelines" means that the well pump has been disconnected and the well abandoned in an acceptable manner or a surface source has been physically disconnected.

2) "Closed for exceeding guidelines" means the source has not been used since it exceeded a guideline in effect at that time.

3) "Open - exceeded guidelines, now meets MCLs" means the source was previously closed for exceeding guidelines but now meets MCLs and any effective guidelines.

4) "Probably will exceed MCLs if kept in use" means that the monitoring prior to January 9, 1989 indicates the potential to exceed the MCL, but no MCL violation has been demonstrated and the well remains in use as needed.

5) "Restricted from use for exceeding MCLs," means that an MCL violation has been confirmed for the source, and it may not be used without Health Department permission.

6) "Treated to meet MCLs or Guidelines," means that the source's raw water exceeds MCLs or guidelines unless noted and is treated to comply with the MCLs and/or guidelines.

7) "Violates MCL but needed for production," means that an MCL violation has been confirmed for the source, and it is being used only to meet water demand with public notificaton. A schedule of compliance is in development or in effect.

8) "Voluntarily not used, could exceed MCL" means the public water system discontinued use of the source when the new standards went into effect or when a single sample indicated a potential MCL violation.

February 9, 1990

TABLE 1
COMMUNITY WATER SYSTEM SOURCES
AFFECTED BY ORGANIC CONTAMINATION
FEBRUARY 1990

SYSTEM/ WELL NAME	PUMP CAP. (MGD)	CONTAMINANT (SEE TABLE 1A FOR (ABBREVIATION)	DATE FIRST CLOSED	DATE LAST CLOSED	DATE LAST REOPENED	REMARKS
** Subtotal **	2.56					
** LIVINGSTON COUNTY						
* CALEDONIA (V) (POPULATION		2400): PROBABLY WILL EXCEED MCLS IF KEPT IN USE				
WELL #3	0.72	TCE 111TCA	/ /	/ /	/ /	NOT USED - MECHANICAL PROBLEM
* Subsubtotal *	0.72					
* CALEDONIA (V) (POPULATION		2400): VIOLATES MCLS BUT NEEDED FOR PRODUCTION				
WELL #1	0.58	1,1,1-TRICHLOROETHANE	/ /	/ /	/ /	TREATMENT PLANNED
* Subsubtotal *	0.58					
* CALEDONIA (V) (POPULATION		2400): VOLUNTARILY NOT USED, COULD EXCEED MCLS				
WELL #2	0.50	TCE 111TCA T12DCE	06/19/89	06/19/89	/ /	TREATMENT PLANNED
* Subsubtotal *	0.50					
** Subtotal **	1.80					
** MONROE COUNTY						
* SPENCERPORT (V) (POPULATION		4725): ABANDONED FOR EXCEEDING GUIDELINES				
WELL SPRING	0.29	HYDROCARBONS	05/18/79	05/18/79	/ /	
* Subsubtotal *	0.29					
** Subtotal **	0.29					
** NASSAU COUNTY						
* ALBERTSON WD (POPULATION		13500): VOLUNTARILY NOT USED, COULD EXCEED MCLS				
WELL #3	1.44	TETRACHLOROETHYLENE	01/08/89	/ /	/ /	TREATMENT PROPOSED
WELL #4	1.73	1,1,1-TRICHLOROETHANE	01/08/89	/ /	/ /	TREATMENT PROPOSED
* Subsubtotal *	3.17					
* BAYVILLE (V) (POPULATION		7500): CLOSED FOR EXCEEDING GUIDELINES				
WELL #1-2	1.44	1,1,1-TRICHLOROETHANE	10/03/83	10/03/83	/ /	
* Subsubtotal *	1.44					

TABLE 1
COMMUNITY WATER SYSTEM SOURCES
AFFECTED BY ORGANIC CONTAMINATION
FEBRUARY 1990

SYSTEM/ WELL NAME	PUMP CAP. (MGD)	CONTAMINANT (SEE TABLE 1A FOR (ABBREVIATION)	DATE FIRST CLOSED	DATE LAST CLOSED	DATE LAST REOPENED	REMARKS
* BETHPAGE WD (POPULATION 33000): CLOSED FOR EXCEEDING GUIDELINES						
WELL #6-1	2.02	TRICHLOROETHYLENE	12/03/76	03/23/78	/ /	TREATMENT UNDER CONSTRUCTION
* Subsubtotal *	2.02					
* BETHPAGE WD (POPULATION 33000): OPEN-EXCEEDED GUIDELINES, NOW MEETS MCLS						
WELL #9	2.02	TETRACHLOROETHYLENE	12/13/76	/ /	03/16/78	
* Subsubtotal *	2.02					
* CITIZENS WS CO. (POPULATION 35000): TREATED TO MEET MCLS OR GUIDELINES						
WELL #21A	1.51	BENZENE	10/28/83	/ /	10/17/84	
* Subsubtotal *	1.51					
* EAST MEADOW WD (POPULATION 50000): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #2	1.51	1,2-DICHLOROPROPANE	01/08/89	/ /	/ /	STUDYING TREATMENT AND SOURCE OPTIONS
WELL #4	1.73	1,1,1-TRICHLOROETHANE	03/01/89	/ /	/ /	STUDYING SOURCE AND TREATMENT OPTIONS
* Subsubtotal *	3.24					
* FARMINGDALE (V) (POPULATION 8346): OPEN-EXCEEDED GUIDELINES, NOW MEETS MCLS						
WELL #2-1	1.08	TRICHLOROETHYLENE	12/28/76	/ /	06/13/77	RESTRICTED BEFORE GUIDELINE
* Subsubtotal *	1.08					
* FRANKLIN SQUARE WD (POPULATION 20000): TREATED TO MEET MCLS OR GUIDELINES						
WELL #5	1.73	11DCE TCE	01/08/89	/ /	11/20/89	GAC
* Subsubtotal *	1.73					
* GARDEN CITY (V) (POPULATION 24000): ABANDONED FOR EXCEEDING GUIDELINES						
WELL # 6	1.51	TRICHLOROETHYLENE	01/08/89	/ /	/ /	ABANDONED 1989, USGS OBSERVATION WELL
* Subsubtotal *	1.51					
* GARDEN CITY (V) (POPULATION 24000): TREATED TO MEET MCLS OR GUIDELINES						
WELL #10	2.02	TRICHLOROETHYLENE	08/12/87	08/12/87	05/26/89	TREATMENT OPERATING AVAITING CW APPROVAL
WELL #13	2.02	TRICHLOROETHYLENE	01/08/89	/ /	05/30/89	
WELL #14	2.02	TRICHLOROETHYLENE	01/06/89	01/06/89	01/06/89	***

TABLE 1
COMMUNITY WATER SYSTEM SOURCES
AFFECTED BY ORGANIC CONTAMINATION
FEBRUARY 1990

SYSTEM/ WELL NAME	PUMP CAP. (MGD)	CONTAMINANT (SEE TABLE 1A FOR (ABBREVIATION)	DATE FIRST CLOSED	DATE LAST CLOSED	DATE LAST REOPENED	REMARKS
* Subsubtotal *	6.05					
* GARDEN CITY (V) (POPULATION 24000): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL # 9	1.58	TRICHLOROETHYLENE	01/08/89	/ /	/ /	
WELL #11	2.02	TRICHLOROETHYLENE	01/08/89	/ /	/ /	TREATMENT BUILT, AWAITING CW APPROVAL
WELL #12	2.02	TRICHLOROETHYLENE	01/08/89	/ /	/ /	TREATMENT PLANNED
* Subsubtotal *	5.62					
* GARDEN CITY PARK WD (POPULATION 22600): CLOSED FOR EXCEEDING GUIDELINES						
WELL #4	1.44	TETRACHLOROETHYLENE	04/09/81	04/09/81	/ /	
WELL #5	1.44	TETRACHLOROETHYLENE	12/02/77	12/02/77	/ /	
* Subsubtotal *	2.88					
* GARDEN CITY PARK WD (POPULATION 22600): TREATED TO MEET MCLS OR GUIDELINES						
WELL #6	1.73	TETRACHLOROETHYLENE	07/08/81	/ /	06/19/86	
* Subsubtotal *	1.73					
* GARDEN CITY PARK WD (POPULATION 22600): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #9	1.73	TRICHLOROETHYLENE	01/08/89	/ /	/ /	TREATMENT DESIGN APPROVED
* Subsubtotal *	1.73					
* GLEN COVE (C) (POPULATION 27000): CLOSED FOR EXCEEDING GUIDELINES						
WELL #1-S	1.01	TETRACHLOROETHYLENE	07/07/77	07/07/77	/ /	
WELL #20	0.72	TRICHLOROETHYLENE	06/23/77	06/23/77	/ /	
WELL #21	2.02	TCE PCE	06/13/77	03/05/85	/ /	
WELL #22	2.02	TCE PCE	06/23/77	06/23/77	/ /	
* Subsubtotal *	5.76					
* GLEN COVE (C) (POPULATION 27000): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #2-S	2.02	TETRACHLOROETHYLENE	08/14/78	01/08/89	04/11/79	
WELL K (KELLY)	1.73	1,1,1-TRICHLOROETHANE	01/08/89	/ /	/ /	REPLACEMENT WELL DESIGNED TREATMENT PROP
* Subsubtotal *	3.74					
* HEMPSTEAD (V) (POPULATION 40404): CLOSED FOR EXCEEDING GUIDELINES						
WELL #1R	1.73	TRICHLOROETHYLENE	09/26/88	09/26/88	/ /	TREATMENT PROPOSED***

TABLE 1
COMMUNITY WATER SYSTEM SOURCES
AFFECTED BY ORGANIC CONTAMINATION
FEBRUARY 1990

SYSTEM/ WELL NAME	PUMP CAP. (MGD)	CONTAMINANT (SEE TABLE 1A FOR (ABBREVIATION)	DATE FIRST CLOSED	DATE LAST CLOSED	DATE LAST REOPENED	REMARKS
* Subsubtotal *	1.73					
* HEMPSTEAD (V) (POPULATION 40404): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #6	1.44	TRICHLOROETHYLENE	01/23/78	01/08/89	05/07/81	TREATMENT PROPOSED
* Subsubtotal *	1.44					
* HICKSVILLE WD (POPULATION 57350): ABANDONED FOR EXCEEDING GUIDELINES						
WELL #5-1	1.73	1,1,1-TRICHLOROETHANE	08/25/77	08/25/77	/ /	ABANDONED 1980
* Subsubtotal *	1.73					
* HICKSVILLE WD (POPULATION 57350): TREATED TO MEET MCLS OR GUIDELINES						
WELL #1-5	1.73	NITRATE TOC	09/28/83	/ /	07/24/85	
WELL #1-6	1.94	TRICHLOROETHYLENE	03/26/86	/ /	07/01/86	
WELL #8-1	2.02	TETRACHLOROETHYLENE	09/09/85	/ /	04/16/86	TEMP GAC TREATMENT TO BE MOVED TO WELL 4
WELL #8-3	2.02	TETRACHLOROETHYLENE	01/08/89	/ /	01/08/89	TEMP GAC TREATMENT TO BE MOVED TO WELL 4
* Subsubtotal *	7.70					
* HICKSVILLE WD (POPULATION 57350): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #1-4	2.02	11DCE 111TCA PCE	03/01/89	/ /	/ /	REVIEWING SOURCE AND TREATMENT OPTIONS
WELL #2-2	1.73	CARBON TETRACHLORIDE	01/08/89	/ /	/ /	
WELL #4-2	2.02	11DCE 111TCA TCE PCE	06/01/89	/ /	/ /	REVIEWING SOURCE AND TREATMENT OPTIONS
WELL #5-2	2.02	TETRACHLOROETHYLENE	01/08/89	/ /	/ /	GAC TREATMENT DESIGN APPROVED
* Subsubtotal *	7.78					
* JAMAICA WS (POPULATION 128448): ABANDONED FOR EXCEEDING GUIDELINES						
WELL #16	1.73	TETRACHLOROETHYLENE	10/20/78	10/20/78	/ /	ABANDONED 1986
* Subsubtotal *	1.73					
* JAMAICA WS (POPULATION 128448): OPEN-EXCEEDED GUIDELINES, NOW MEETS MCLS						
WELL #28	1.73	TRICHLOROETHYLENE	09/20/78	06/07/83	08/17/83	
* Subsubtotal *	1.73					
* JAMAICA WS (POPULATION 128448): TREATED TO MEET MCLS OR GUIDELINES						
WELL #20	1.15	TETRACHLOROETHYLENE	08/01/88	08/01/88	08/01/88	***

TABLE 1
COMMUNITY WATER SYSTEM SOURCES
AFFECTED BY ORGANIC CONTAMINATION
FEBRUARY 1990

SYSTEM/ WELL NAME	PUMP CAP. (MGD)	CONTAMINANT (SEE TABLE 1A FOR (ABBREVIATION)	DATE FIRST CLOSED	DATE LAST CLOSED	DATE LAST REOPENED	REMARKS
WELL #35	1.80	TRICHLOROETHYLENE	02/18/86	02/18/86	02/18/86	
WELL #35A	1.80	1,1,1-TRICHLOROETHANE	02/18/86	02/18/86	02/18/86	
WELL #40	2.02	TETRACHLOROETHYLENE	09/29/88	09/29/88	09/29/88	
WELL #57	1.73	TRICHLOROETHYLENE	06/07/83	/ /	08/17/83	
WELL #57A	1.73	TRICHLOROETHYLENE	09/02/86	/ /	09/02/86	
* Subsubtotal *	10.22					
* JAMAICA WS (POPULATION 128448): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #25	1.73	1,2-DICHLOROETHANE	01/08/89	/ /	/ /	CAPACITY REPLACED BY NEW WELLS
WELL #44A	2.30	TRICHLOROETHYLENE	01/08/89	/ /	/ /	CAPACITY REPLACED BY NEW WELLS
WELL #44C	2.02	TRICHLOROETHYLENE	10/01/89	/ /	/ /	
* Subsubtotal *	6.05					
* JERICHO WD (POPULATION 60158): ABANDONED FOR EXCEEDING GUIDELINES						
WELL #10	1.73	1,1,1-TRICHLOROETHANE	05/06/77	05/06/77	/ /	ABANDONED 1981
* Subsubtotal *	1.73					
* JERICHO WD (POPULATION 60158): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #15	1.73	TETRACHLOROETHYLENE	01/08/89	/ /	/ /	CAPACITY REPLACED BY NEW WELL IN 1988-89
* Subsubtotal *	1.73					
* LEVITTOWN WD (POPULATION 48749): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #10	1.73	TETRACHLOROETHYLENE	04/01/89	/ /	/ /	REVIEWING SOURCE AND TREATMENT OPTIONS
* Subsubtotal *	1.73					
* LONG ISLAND WATER CORP. (POPULATION 234700): OPEN-EXCEEDED GUIDELINES, NOW MEETS MCLS						
WELL #1-15	1.08	1,1,1-TRICHLOROETHANE	05/06/77	/ /	12/20/82	
* Subsubtotal *	1.08					
* LONG ISLAND WATER CORP. (POPULATION 234700): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #1-16	0.72	1,1,1-TRICHLOROETHANE	01/08/89	/ /	/ /	
WELL #5R	8.06	TETRACHLOROETHYLENE	01/08/89	/ /	/ /	100 WELL POINTS TREATMENT UNDER STUDY
* Subsubtotal *	8.78***					

TABLE 1
COMMUNITY WATER SYSTEM SOURCES
AFFECTED BY ORGANIC CONTAMINATION
FEBRUARY 1990

SYSTEM/ WELL NAME	PUMP CAP. (MGD)	CONTAMINANT (SEE TABLE 1A FOR (ABBREVIATION)	DATE FIRST CLOSED	DATE LAST CLOSED	DATE LAST REOPENED	REMARKS
* MANHASSET-LAKEVILLE WD (POPULATION 45808): CLOSED FOR EXCEEDING GUIDELINES						
WELL # 6	2.02	T,1,2-DICHLOROETHENE	08/06/84	08/06/84	/ /	TREATMENT PLANNED
* Subsubtotal *	2.02					
* MANHASSET-LAKEVILLE WD (POPULATION 45808): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL # 5T	2.09	DICHLORODIFLUOROMETHAN	04/01/89	/ /	/ /	STUDYING TREATMENT
WELL # 6T	1.51	DICHLORODIFLUOROMETHAN	09/01/89	/ /	/ /	STUDYING TREATMENT
WELL # 7	1.30	PCE T12DCE C12DCE	01/08/89	/ /	/ /	
WELL #23	2.02	TETRACHLOROETHYLENE	05/15/89	/ /	/ /	
* Subsubtotal *	6.91					
* MINEOLA (V) (POPULATION 20600): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #4	1.51	TRICHLOROETHYLENE	01/08/89	/ /	/ /	TREATMENT PLANNED
* Subsubtotal *	1.51					
* NEW YORK WATER SERVICES (POPULATION 175000): OPEN-EXCEEDED GUIDELINES, NOW MEETS MCLS						
WELL #2-S	2.22	PCE TCA DBCA	09/20/78	/ /	05/25/79	
* Subsubtotal *	2.22					
* OYSTER BAY WD (POPULATION 9000): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #6-1	1.58	TETRACHLOROETHYLENE	01/08/89	/ /	/ /	WELL DEEPENING PLANS APPROVED 5/3/89
* Subsubtotal *	1.58					
* PLAINVIEW WD (POPULATION 35000): OPEN-EXCEEDED GUIDELINES, NOW MEETS MCLS						
WELL #3-1	1.73	TCA TCE	12/28/76	/ /	06/13/77	RESTRICTED BEFORE GUIDELINE
* Subsubtotal *	1.73					
* PORT WASHINGTON WD (POPULATION 38000): OPEN-EXCEEDED GUIDELINES, NOW MEETS MCLS						
WELL # 5	1.01	VINYL CHLORIDE	06/29/81	/ /	09/11/81	RESULTS INVALID NOT USED NEAR LANDFILL
* Subsubtotal *	1.01					
* PORT WASHINGTON WD (POPULATION 38000): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL MP9	2.02	TETRACHLOROETHYLENE	01/08/89	/ /	/ /	TREATMENT PLANNED***

TABLE 1
COMMUNITY WATER SYSTEM SOURCES
AFFECTED BY ORGANIC CONTAMINATION
FEBRUARY 1990

SYSTEM/ WELL NAME	PUMP CAP. (MGD)	CONTAMINANT (SEE TABLE 1A FOR (ABBREVIATION)	DATE FIRST CLOSED	DATE LAST CLOSED	DATE LAST REOPENED	REMARKS
* Subsubtotal *	2.02					
* ROOSEVELT FIELD WD (POPULATION 1900): ABANDONED FOR EXCEEDING GUIDELINES						
WELL #3	1.44	TRICHLOROETHYLENE	10/20/78	10/20/78	/ /	ABANDONED 1980
* Subsubtotal *	1.44					
* ROOSEVELT FIELD WD (POPULATION 1900): OPEN-EXCEEDED GUIDELINES, NOW MEETS MCLS						
WELL #2	1.73	TRICHLOROETHYLENE	09/25/79	10/03/80	12/01/82	
* Subsubtotal *	1.73					
* ROSLYN WD (POPULATION 28000): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #2	1.44	TETRACHLOROETHYLENE	12/01/89	/ /	/ /	
* Subsubtotal *	1.44					
* SOUTH FARMINGDALE WD (POPULATION 49900): ABANDONED FOR EXCEEDING GUIDELINES						
WELL #1-1	1.58	TCA TCE	01/01/82	01/01/82	/ /	ABANDONED 1982-SCREEN COLLAPSE
* Subsubtotal *	1.58					
* SOUTH FARMINGDALE WD (POPULATION 49900): OPEN-EXCEEDED GUIDELINES, NOW MEETS MCLS						
WELL #6-1	1.87	TRICHLOROETHYLENE	01/17/77	/ /	06/13/77	NOT DETECTED SINCE ONE RESULT IN 1977
WELL #6-2	1.15	TRICHLOROETHYLENE	01/17/77	/ /	06/13/77	NOT DETECTED SINCE ONE RESULT IN 1977
* Subsubtotal *	3.02					
* WEST HEMPSTEAD-GARDEN WD (POPULATION 32031): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #4	1.73	TETRACHLOROETHYLENE	01/01/90	/ /	/ /	REVIEWING SOURCE AND TREATMENT OPTIONS
* Subsubtotal *	1.73					
* WESTBURY WD (POPULATION 20050): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL # 6	1.44	TETRACHLOROETHYLENE	01/08/89	/ /	/ /	
* Subsubtotal *	1.44					
* WILLISTON PARK (V) (POPULATION 10500): PROBABLY WILL EXCEED MCLS IF KEPT IN USE						
WELL #4	2.02	TETRACHLOROETHYLENE	/ /	/ /	/ /	TREATMENT PLANNED***

TABLE 1
COMMUNITY WATER SYSTEM SOURCES
AFFECTED BY ORGANIC CONTAMINATION
FEBRUARY 1990

SYSTEM/ WELL NAME	PUMP CAP. (MGD)	CONTAMINANT (SEE TABLE 1A FOR (ABBREVIATION)	DATE FIRST CLOSED	DATE LAST CLOSED	DATE LAST REOPENED	REMARKS
** Subtotal **	0.02					
** STEUBEN COUNTY						
* CORNING (C) (POPULATION 12953): ABANDONED FOR EXCEEDING GUIDELINES						
WELL #4	1.08	TCE BENZENE PCE	11/10/82	01/08/89	01/01/85	ABANDONED 1989
WELL #8	2.02	TCA PCE	11/10/82	10/01/86	05/01/84	REPLACED BY WELL #8A
* Subsubtotal *	3.10					
* CORNING (C) (POPULATION 12953): CLOSED FOR EXCEEDING GUIDELINES						
WELL #6	1.05	TRICHLOROETHYLENE	12/28/83	12/28/83	/ /	
WELL #8A	2.02	TRICHLOROETHYLENE	10/08/86	10/08/86	/ /	TREATMENT DESIGN APPROVED
* Subsubtotal *	3.07					
* CORNING (C) (POPULATION 12953): PROBABLY WILL EXCEED MCLS IF KEPT IN USE						
WELL #1	1.08	TRICHLOROETHYLENE	/ /	/ /	/ /	<MCL IN 1989 TREATMENT DESIGN APPROVED
WELL #2	1.01	TRICHLOROETHYLENE	/ /	/ /	/ /	<MCL IN 1989 TREATMENT DESIGN APPROVED
* Subsubtotal *	2.09					
* CORNING (C) (POPULATION 12953): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #5	0.80	TRICHLOROETHYLENE	/ /	01/08/89	01/01/85	
* Subsubtotal *	0.80					
* PAINTED POST (V) (POPULATION 2196): PROBABLY WILL EXCEED MCLS IF KEPT IN USE						
WELL #4	1.44	1,1,1-TRICHLOROETHANE	/ /	/ /	/ /	< MCL IN 1989
* Subsubtotal *	1.44					
** Subtotal **	10.49					
** SUFFOLK COUNTY						
* BRENTWOOD WD (POPULATION 26000): ABANDONED FOR EXCEEDING GUIDELINES						
WELL #1-1	0.72	BENZENE PCE	05/01/80	05/01/80	/ /	
* Subsubtotal *	0.72##					

TABLE 1
COMMUNITY WATER SYSTEM SOURCES
AFFECTED BY ORGANIC CONTAMINATION
FEBRUARY 1990

SYSTEM/ WELL NAME	PUMP CAP. (MGD)	CONTAMINANT (SEE TABLE 1A FOR (ABBREVIATION)	DATE FIRST CLOSED	DATE LAST CLOSED	DATE LAST REOPENED	REMARKS
* BROOKHAVEN NATIONAL LABS (POPULATION 3373): CLOSED FOR EXCEEDING GUIDELINES						
WELL # 1	1.73	TRICHLOROETHYLENE	09/01/86	/ /	/ /	
WELL # 2	1.73	TRICHLOROETHYLENE	03/20/80	/ /	/ /	
* Subsubtotal *	3.46					
* BROOKHAVEN NATIONAL LABS (POPULATION 3373): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL # 4	1.73	TCE TCA	01/08/89	/ /	/ /	FEDERAL FACILITY
WELL #10	1.01	1,1,1-TRICHLOROETHANE	06/06/89	/ /	/ /	
WELL #11	1.01	1,1,1-TRICHLOROETHANE	10/20/89	/ /	/ /	
* Subsubtotal *	3.74					
* CREST HALL HEALTH FAC. (POPULATION 120): ABANDONED FOR EXCEEDING GUIDELINES						
CREST HALL	0.14	BENZENE	01/01/84	01/01/84	/ /	
* Subsubtotal *	0.14					
* DIX HILLS WD (POPULATION 28728): TREATED TO MEET MCLS OR GUIDELINES						
WELL #1-2	1.44	1,2-DICHLOROPROPANE	06/06/86	/ /	06/06/86	
WELL #1-3	2.02	1,2-DICHLOROPROPANE	06/06/86	06/06/86	/ /	GAC
* Subsubtotal *	3.46					
* EAST FARMINGDALE WD (POPULATION 5200): CLOSED FOR EXCEEDING GUIDELINES						
WELL #2-1	1.94	PCE TCE TCA	01/01/77	02/01/77	/ /	
* Subsubtotal *	1.94					
* GREENLAWN WD (POPULATION 40000): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #3	1.15	1,1,1-TRICHLOROETHANE	01/08/89	/ /	/ /	STUDYING TREATMENT
WELL #7	0.43		01/08/89	/ /	/ /	
* Subsubtotal *	1.58					
* GREENPORT (V) (POPULATION 6851): TREATED TO MEET MCLS OR GUIDELINES						
WELL #6-1	0.72	ALDICARB	08/30/79	07/03/82	01/01/83	
WELL #6-3	0.72	ALDICARB	09/01/86	09/01/86	09/01/86	GAC
WELL #7-1	0.43	ALDICARB	08/30/79	07/03/82	01/01/83	TREATED FOR EXCEEDING GUIDELINE
* Subsubtotal *	1.87					
* NORTHPORT VA HOSPITAL (POPULATION 3500): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #3	0.25	1,1,1-TRICHLOROETHANE	12/01/89	/ /	/ /	TREATMENT PLANNED
WELL #4	0.36	1,1,1-TRICHLOROETHANE	01/08/89	/ /	/ /	FEDERAL FACILITY***

TABLE 1
COMMUNITY WATER SYSTEM SOURCES
AFFECTED BY ORGANIC CONTAMINATION
FEBRUARY 1990

SYSTEM/ WELL NAME	PUMP CAP. (MGD)	CONTAMINANT (SEE TABLE 1A FOR (ABBREVIATION)	DATE FIRST CLOSED	DATE LAST CLOSED	DATE LAST REOPENED	REMARKS
WELL #5	0.00	111TCA 11DCA	01/08/89	/ /	/ /	
* Subsubtotal *	0.61					
* NORTHSHORE WC (POPULATION	4000): VOLUNTARILY NOT USED, COULD EXCEED MCLS					
WELL #1	0.29	TRICHLOROETHYLENE	01/08/89	/ /	/ /	TAKEOVER BY SCWA ON 1/15/89
* Subsubtotal *	0.29					
* REEVES BEACH WC (POPULATION	650): ABANDONED FOR EXCEEDING GUIDELINES					
WELL #1	0.17	ALDICARB CARBOFURAN	03/28/83	03/28/83	/ /	TOOK OVER BY RIVERHEAD WD < GUIDELINE
* Subsubtotal *	0.17					
* SCOTTS BEACH WC (POPULATION	260): PROBABLY WILL EXCEED MCLS IF KEPT IN USE					
WELL #2	0.29	1,1,1-TRICHLOROETHANE	/ /	/ /	/ /	< MCL IN 1989
* Subsubtotal *	0.29					
* SCOTTS BEACH WC (POPULATION	260): RESTRICTED FROM USE FOR EXCEEDING MCLS					
WELL #1	0.25	1,1,1-TRICHLOROETHANE	08/31/89	/ /	/ /	
* Subsubtotal *	0.25					
* SOUNDVIEW ASSOC (POPULATION	236): RESTRICTED FROM USE FOR EXCEEDING MCLS					
WELL #1	0.11	1,1,1-TRICHLOROETHANE	03/29/89	/ /	/ /	HAS INTERCONNECTION WITH SCWA
WELL #2	0.08	1,1,1-TRICHLOROETHANE	03/29/89	/ /	/ /	HAS INTERCONNECTION WITH SWCA
* Subsubtotal *	0.19					
* SOUTH HUNTINGTON WD (POPULATION	51570): TREATED TO MEET MCLS OR GUIDELINES					
WELL #1-1	2.02	PCE TCE TCA	01/02/80	01/02/80	05/07/87	
WELL #2	1.37	PCE TCE TCA	09/29/78	09/29/78	05/07/87	
WELL #3-1	1.30	PCE C12DCE	07/23/82	01/08/89	07/10/89	GAC
* Subsubtotal *	4.68					
* SUFFOLK CO. WTR AUTH (POPULATION 860000): ABANDONED FOR EXCEEDING GUIDELINES						
ALBANY AVENUE #1	1.30	CHLOROFORM PCE TCE TCA	02/01/77	02/01/77	/ /	
ALBANY AVENUE #2	1.30	PCE TCE TCA	05/20/77	05/20/77	/ /	
ALBANY AVENUE #3	1.30	TCA PCE TCE CHLOROFORM	01/01/77	01/01/77	/ /	
* Subsubtotal *	[illegible]					

TABLE 1
COMMUNITY WATER SYSTEM SOURCES
AFFECTED BY ORGANIC CONTAMINATION
FEBRUARY 1990

SYSTEM/ WELL NAME	PUMP CAP. (MGD)	CONTAMINANT (SEE TABLE 1A FOR (ABBREVIATION)	DATE FIRST CLOSED	DATE LAST CLOSED	DATE LAST REOPENED	REMARKS
* SUFFOLK CO. WTR AUTH (POPULATION 860000): CLOSED FOR EXCEEDING GUIDELINES						
41ST STREET #3	1.73	PCE TCA	07/20/82	07/20/82	/ /	
EAST FORKS RD #1	1.30	1,1,1-TRICHLOROETHANE	10/06/80	07/09/82	/ /	
LOCUST AVE. #2	1.44	CHLOROFORM PCE TCE	11/04/77	11/04/77	/ /	
LOCUST AVE. #3	1.44	CHLOROFORM PCE TCE	08/30/78	08/30/78	/ /	
MEADE DRIVE #1	1.01	TCA PCE TCE	11/04/77	11/04/77	/ /	
MEADE DRIVE #2	1.44	PCE TCE	01/05/78	01/05/78	/ /	
MONTAUK HIGHWAY #3	1.01	PCE TCE TCA	09/01/83	09/01/83	/ /	
OVAL DRIVE #1	1.44	PCE TCE TCA	12/21/77	12/01/82	/ /	
* Subsubtotal *	10.80					
* SUFFOLK CO. WTR AUTH (POPULATION 860000): OPEN-EXCEEDED GUIDELINES, NOW MEETS MCLS						
CHURCH STREET HOL #1	0.14	1,1,1-TRICHLOROETHANE	08/15/77	/ /	01/12/78	<MCL GAC-P PRIORITY 32
GREEN AVENUE #7	1.73	PCE TCA	01/01/77	/ /	10/01/77	
MILL LANE	2.02	TETRACHLOROETHYLENE	09/01/77	/ /	11/01/77	
MONTAUK HIGHWAY #1	0.56	PCE TCE TCA	09/01/83	09/01/83	/ /	<MCL GAC-P PRIORITY 20
OVAL DRIVE #2	1.44	PCE TCE TCA	03/21/77	12/01/82	09/27/89	
* Subsubtotal *	5.89					
* SUFFOLK CO. WTR AUTH (POPULATION 860000): TREATED TO MEET MCLS OR GUIDELINES						
BELLEROSE AVE. #1	1.58	TETRACHLOROETHYLENE	/ /	/ /	/ /	AIR STRIPPER INSTALLED BEFORE 1/9/89
BELLMORE AVENUE #1	1.44	1,1,1-TRICHLOROETHANE	01/08/89	/ /	05/23/89	GAC
BRIDGEHAMPTON RD #2A	0.58	1,1,1-TRICHLOROETHANE	01/08/89	/ /	05/05/89	GAC
BRIDGEHAMPTON RD #3	0.72	1,1,1-TRICHLOROETHANE	01/08/89	/ /	05/05/89	GAC
BRIDGEHAMPTON RD #4	1.01	1,1,1-TRICHLOROETHANE	/ /	/ /	/ /	GAC INSTALLED BEFORE 1/9/89
BRIDGEHAMPTON RD #5	0.58	1,1,1-TRICHLOROETHANE	/ /	/ /	/ /	GAC INSTALLED BEFORE 1/9/89
CHURCH STREET BOH #1	2.02	TRICHLOROETHYLENE	01/08/89	/ /	06/23/89	GAC
CHURCH STREET BOH #2	2.02	TRICHLOROETHYLENE	01/08/89	/ /	06/23/89	GAC
COMMERCIAL BLVD #1	1.44	TRICHLOROETHYLENE	01/08/89	/ /	05/23/89	GAC
CRYSTAL BROOK #1	2.02	BENZENE CARBON TETRA	/ /	/ /	/ /	<MCL BUT GAC SINCE 5/5/89
CRYSTAL BROOK #2	2.02	BENZENE XYLENE	01/15/87	01/15/87	05/05/89	GAC
DOUGLAS AVE #1	1.44	TRICHLOROETHYLENE	07/16/87	07/16/87	03/28/89	GAC
FALCON DRIVE #2	3.46	1,1,1-TRICHLOROETHANE	01/08/89	/ /	04/24/89	GAC, ALSO PCE
HOLLYWOOD PLACE #1	1.87	1,1,1-TRICHLOROETHANE	/ /	/ /	/ /	<MCL GAC INSTALLED BEFOR 1/9/89
HORSEBLOCK ROAD #1	2.02	1,1,1-TRICHLOROETHANE	01/08/89	/ /	06/23/89	<MCL GAC
INLET DRIVE #2	0.14	1,1,1-TRICHLOROETHANE	01/08/89	/ /	06/30/89	VOC MAY HAVE BEEN ?
LINCOLN AVENUE #1	1.73	1,1,1-TRICHLOROETHANE	05/31/77	01/08/89	04/25/89	GAC
LONG SPRINGS ROAD #1	0.58	ALDICARB CARBOFURAN	08/01/81	/ /	04/27/89	GAC, LAST RESULTS < GUIDELINES
LONG SPRINGS ROAD #2	0.58	ALDICARB CARBOFURAN	09/11/80	/ /	04/27/89	GAC, LAST RESULTS < GUIDELINES
MAPLE AVE #2	1.87	1,1,1-TRICHLOROETHANE	01/08/89	/ /	05/26/89	GAC
MCKAY RD #1	2.30	TETRACHLOROETHYLENE	01/08/89	/ /	05/23/89	GAC
PLEASANT AVENUE #1	1.73	TRICHLOROETHYLENE	01/08/89	/ /	05/26/89	GAC***

TABLE 1
COMMUNITY WATER SYSTEM SOURCES
AFFECTED BY ORGANIC CONTAMINATION
FEBRUARY 1990

SYSTEM/ WELL NAME	PUMP CAP. (MGD)	CONTAMINANT (SEE TABLE 1A FOR (ABBREVIATION)	DATE FIRST CLOSED	DATE LAST CLOSED	DATE LAST REOPENED	REMARKS
PLEASANT AVENUE #2	1.73	TRICHLOROETHYLENE	01/08/89	/ /	05/26/89	GAC
SAMUEL STREET #2	1.44	PCE TCE TCA	10/22/80	10/22/80	05/23/89	GAC
SAMUEL STREET #3	1.73	1,1,1-TRICHLOROETHANE	/ /	/ /	/ /	GAC INSTALLED BEFORE 1/9/89
SAMUEL STREET #4	1.87	TRICHLOROETHYLENE	/ /	/ /	/ /	GAC INSTALLED BEFORE 1/9/89
SCHUYLER DRIVE #1	1.44	1,1,1-TRICHLOROETHANE	01/08/89	/ /	05/18/89	GAC
SPINNEY RD #1	1.44	ALDICARB	/ /	/ /	04/21/89	< GUIDELINE GAC
VIRGINIA AVENUE #1	1.87	1,1,1-TRICHLOROETHANE	01/08/89	/ /	04/24/89	GAC
WOODCHUCK HOL RD #1	2.16	1,2-DICHLOROPROPANE	01/08/89	/ /	04/24/89	GAC INSTALLED
WOODCHUCK HOLLOW #3	3.46	1,2-DICHLOROPROPANE	/ /	/ /	/ /	GAC INSTALLED BEFORE 1/9/89
* Subsubtotal *	50.26					
* SUFFOLK CO. WTR AUTH (POPULATION 860000): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
CAPITAL CT #1	2.02	TRICHLOROETHYLENE	04/11/89	/ /	/ /	
DARE RD #3	0.72	1,1,1-TRICHLOROETHANE	03/14/89	/ /	/ /	
EASTON ST #1	0.43	1,1,1-TRICHLOROETHANE	01/08/89	/ /	/ /	
EASTWOOD BLVD #1	1.44	1,1,1-TRICHLOROETHANE	04/05/89	/ /	/ /	
FALCON DRIVE #1	2.02	1,1,1-TRICHLOROETHANE	01/08/89	/ /	/ /	GAC-PROPOSED PRIORITY 1 ALSO PCE
GUN CLUB ROAD #2	2.16	1,1,1-TRICHLOROETHANE	01/08/89	/ /	/ /	GAC-PROPOSED PRIORITY 13
HY PLACE #1	1.87	TRICHLOROETHYLENE	01/08/89	/ /	/ /	GAC-PROPOSED PRIORITY 21
KINGS PARK ROAD #1	2.16	TRICHLOROETHYLENE	01/08/89	/ /	/ /	GAC-PROPOSED PRIORITY 39
LIBERTY STREET #2	1.44	1,1,1-TRICHLOROETHANE	01/08/89	/ /	/ /	GAC-PROPOSED PRIORITY 36
LOCUST DR #1	1.44	111TCA TCE C12DCE	03/13/89	/ /	/ /	
MUD ROAD #1	1.44	1,1,1-TRICHLOROETHANE	01/08/89	/ /	/ /	GAC-PROPOSED PRIORITY 43
NICOLLS ROAD #2	1.73	TETRACHLOROETHYLENE	01/08/89	/ /	/ /	GAC-PROPOSED PRIORITY 12
OVAL DRIVE #3	1.73	1,1,1-TRICHLOROETHANE	01/08/89	/ /	/ /	GAC-PROPOSED PRIORITY 18 ALSO PCE
TOWNLINE ROAD #1	2.02	TRICHLOROETHYLENE	01/08/89	/ /	/ /	GAC-PROPOSED PRIORITY 10
WALTER COURT #1	1.44	1,1,1-TRICHLOROETHANE	01/08/89	/ /	/ /	GAC-PROPOSED PRIORITY 44
WATERSIDE RD #1	1.73	1,1,1-TRICHLOROETHANE	01/08/89	/ /	/ /	
WOODCHUCK HOL RD #2	2.88	1,2-DICHLOROPROPANE	01/08/89	/ /	/ /	
* Subsubtotal *	28.66					
* SUNHILL WATER CORP (POPULATION 3959): VOLUNTARILY NOT USED, COULD EXCEED MCLS						
WELL #1	1.44	1,1,1-TRICHLOROETHANE	11/20/89	/ /	/ /	
* Subsubtotal *	1.44					
* UNIVERSITY GARDEN APARTS (POPULATION 0): ABANDONED FOR EXCEEDING GUIDELINES						
WELL #1	0.00	111TCA TCE PCE	05/22/78	05/22/78	/ /	HOOK-UP TO SCWA
* Subsubtotal *	0.00**					

APPENDIX 5

CONTAMINANT ABBREVIATIONS

Abbreviation	Contaminant
111TCA	1,1,1-Trichloroethane
11DCA	1,1-Dichloroethane
11DCE	1,1-Dichloroethene
C12DCE	cis-1,2-Dichloroethene
DBCA	Dibromochloroethane
PCE	Tetrachloroethylene
T12DCE	Trans-1,2-Dichloroethene
TCE	Trichloroethylene
TOC	Total Organic Carbon

LEAD IN DRINKING WATER SUPPLIES

Lead, if ingested in large quantities, can cause several harmful effects on the human body, including damage to the brain, kidneys, nervous system and red blood cells. Young children and pregnant women are most susceptible to lead poisoning, even if the exposure occurs only for a short period of time. Children can experience stunted growth physically and mentally.

Lead is a naturally occurring metal which is found in most ground and surface water supplies. Although lead in groundwater occurs naturally in much lower concentrations than drinking water standards, the amount of lead in drinking water is increased substantially through the use of lead pipes and/or lead solder in buildings. Lead contaminated drinking water is most often a problem in new homes which are less than five years old, homes with new plumbing modifications where lead solder was used, old homes built with lead pipes in their interior plumbing system (homes built prior to 1930 may have lead pipes), and high rise buildings and schools which have lead solder and/or water coolers with lead components or lead-lined tanks.

To reduce exposure to lead contamination, the Water Commission sponsored legislation, passed in 1985, which limits the lead content in solder used in plumbing for potable water supply systems to not more than one-half percent. Subsequently, the federal government enacted the Safe Drinking Water Act (SDWA) amendments of 1986 which immediately required the use of "lead-free" pipe, solder, and flux during repair or installation of any public water system, and during any plumbing performed in a building which is connected to a public water system. The 1986 amendments defined solders and flux as "lead-free" only when the concentration of lead is 0.2% or less. In the same manner, pipes and pipe fittings must contain no more than 8.0% lead to be labeled "lead-free". The deadline for implementing and beginning enforcement of these requirements, as noted in the 1986 SDWA Amendments, was June of 1988. According to the Department of Health, compliance with and enforcement of the state and federal bans have been limited.

In 1975, the Environmental Protection Agency (EPA) set the standard for lead in drinking water at 50 ppb. On August 18, 1988, the EPA proposed new standards for lead and copper. The proposed Maximum Contaminant Level Goal (MCLG) for lead is zero and the proposed Maximum Contaminant Level (MCL) is reduced from 50 ppb to 5 ppb.[1] In response to testimony, EPA may raise the proposed lead MCL to a value between 5 and 20 ppb.

1. MCLG's are goals for the water supplier to achieve, whereas MCL's are enforceable standards.

The second part of this proposed ruling focuses on the treatment technique utilized to control lead which has entered the water source as a by-product of pipe corrosion. Since most lead contamination results primarily from corrosion of pipes, solders and fixtures in the home or building.

To comply with the treatment technique requirement as presently proposed, three "at-the-tap" tests must be passed. The first "at-the-tap" test must show that lead concentrations in the samples are less than 10 ppb. If higher, the utility must install state approved treatment such as pH control, and initiate a public education program. If the pH is less than 8.0 in more than 5% of the samples taken, the utility must either raise the pH level or demonstrate to the state that the water is minimally corrosive. This requirement presumes that pH adjustments will control lead leaching. Some evidence indicates that other factors, such as age of pipe and galvanic corrosion, may influence leaching. In addition, samples must be taken by suppliers at sites which will give a worst case scenario. Buildings used for sampling must therefore be considered "high-risk" due to their lead service lines, lead interior plumbing and/or pipe solder which is less than five years old. The number of sample sites required is determined by the size of the population served. EPA's final ruling, is expected by the end of 1990.

The Federal Lead Contamination Control Act (LCCA) was put into effect on October 31, 1988. This Act requires the following:

1. Identification of water coolers that are not lead-free.
2. Repair or removal of water coolers with lead-lined tanks.
3. A ban on the manufacture and sale of such water coolers.
4. Identification and correction of lead problems in schools.
5. Authorization of funding for lead screening programs for children.

The EPA published a guidance document entitled, "Lead in School Drinking Water," which was issued to all schools through the State Education Department. The schools were required to identify specific sources of lead contamination in drinking water such as coolers, interior plumbing, faucets, and kitchen facilities. An explanation and the results of the analyses must then be sent to parents. Enforcement and evaluation of this program has not been assigned to a particular agency. The Suffolk County Department of Health Services' (SCDHS) role, for example, is advisory only.

Unfortunately, the majority of schools in New York State have not taken action yet, even though the New York State Department of Health (NYSDOH) held seminars throughout the state to assist them. Although some schools are waiting for EPA to finalize the new lead standard, the guidance manual recommends that the maximum

concentrations of lead be no higher than 20 ppb. Also, many schools have not begun the mandatory school community notification of parents because the requirement has no deadline date.

The LCCA also addresses water coolers that add lead to drinking water. The Act requires EPA to publish a list of water coolers that contain lead and a list of lead-lined tanks (See appendix 1). For a cooler to be considered "lead-free" all components that come in contact with water must contain less than 8% lead.

The Act designates the U.S. Consumer Protection Safety Commission (CPSC) as the authority responsible for requiring that manufacturers and importers of lead-lined tanks repair, replace, or recall the coolers. The EPA recommends that the lead levels in water coolers be below 20 ppb.

Although the companies are supposed to recall their coolers, no formal recalls have occurred yet. The companies are requesting water samples to confirm the lead content first. This sample should not be required once the cooler is listed by EPA. The CPSC has been slow to get coolers recalled, however, it is expected that there will be a voluntary recall soon.

The LCCA does not address coffee urns, although it has been determined that urns contain lead. Studies of lead concentrations in urns are currently being undertaken by the H_2M Group, a private engineering firm located on Long Island.

The EPA's recommendation for immediate reduction of lead exposure in homes is to take the following two precautions daily:

1. Perform a "first-flush" ritual any time water in a particular faucet has been allowed to sit for six hours or longer. The "first-flush" is only performed on the cold water pipes and is accomplished by running the water for 5 to 30 seconds if heavy water use such as showering or toilet flushing has recently occurred, or two minutes or longer if no water use has occurred. By running the water until it becomes as cold as it will get, the stagnant water which has accumulated lead from sitting in the pipes is removed.

   Although it has been proven that the "first-flush" satisfactorily reduces lead exposure in houses, there is no definition, rule or recommendation regarding "first-flush" in a multiple story building. The EPA has noted that flushing may be ineffective in multiple story buildings that have large diameter supply pipes and lead solder.

2. Since hot water dissolves lead quicker than cold water, it is recommended that hot-tap water never be directly consumed or used for cooking purposes.

Findings and Recommendations:

1. The EPA has been slow in making its final ruling on the proposed 5 ppb lead standard and may compromise the standard to a value somewhere between 5 and 20 ppb. The Commission supports the local health department pilot programs which wil move forward with monitoring of lead at the tap. The results will be helpful to EPA for their final rulemaking.

2. Since lead is known to have detrimental effects on humans, public education must be increased regarding reduction of lead exposure in homes through use of the "First flush" ritual.

3. Since the "first-flush" method of lead reduction may not work in high-rise buildings, apartment dwellers may be at a high risk. The Commission recommends that landlords notify all tenants of the risk and inform them not to consume water until mid-morning and to keep containers of water in the refrigerators for drinking purposes. Moreover, workers in a commercial high rise building would have greater exposure to lead in cases where small amounts of water are used from 5:00 p.m. until 9:00 a.m. First-flush samples should be taken and workers should be notified regarding potential exposure.

4. According to the New York State Department of Health, compliance with and enforcement of the state and federal bans on the use of lead pipe, solder and flux have been limited. In addition, the Federal Lead Contamination Control Act has, to a large extent, been unsuccessful since enforcement and evaluation of this program has not been assigned to any one agency.

5. For the school program, the Commission recommends that the state DOH be designated the enforcement authority. A deadline for implementation should be established. It is also recommended that the DOH with the assistance of local health departments, perform spot checks and a survey of plumbing hardware and retail stores to determine if lead solders and flux are properly labelled to inform consumers that lead solder should not be used for water supply plumbing. Stores should be required to post notice on shelves to inform consumers. Town and Village bluilding inspectors should enforce the lead solder ban for new construction.

SOURCE: EPA Fact Sheet: Lead in Drinking Water Coolers

Water Coolers With Lead-Lined Tanks

The following list of model numbers represents all of the drinking water coolers with lead-lined tanks that have been identified to date. The models listed here were selected because one or more of the units in that model series have been tested and found to have lead-lined tanks. These six models are made by the Halsey Taylor Company.

WM 8A	GC 10ACR	GC 5A
WT 8A	GC 10A	RWM 13A

Other Water Coolers Containing Lead

EBCO Manufacturing Company

EBCO has identified all pressure bubbler water coolers with shipping dates from 1962 through 1977 as having a bubbler valve containing lead as defined by the LCCA. The units contain a single 50-50 tin-lead solder joint on the bubbler valve. Model numbers for those coolers in this category were not available.
The following EBCO models of pressure bubbler coolers produced from 1978 through 1981 contain one 50-50 tin-lead solder joint each:

CP3	DP7SM	DPM8H
CP10-53	DP10F	DP16M
DP28-58	C03H	DP7S
DP13A	13P	DP7WM
DP7M	DP3RH	EP10F
DP13M-60	DP14A-50/60	C010
CP5M	DP12N	DP20
DP14S	DPM8	DP8AH
DP5F	DP15M	C10E
CP3-50	DP5S	DP5M
7P	DP13SM	DP13M
DP3R	EP5F	CP3M
DP13A-50	CP5	DP13S
PX-10	13PL	DP7WMD
DP7MH	DP8A	WTC10
DP14M	DP10X	
DP15MW	DP15W	

Pressure bubbler water coolers manufactured by EBCO and marketed under the "Oasis and Kelvinator" brand names with the identified model numbers have been distributed in the U.S. in addition. EBCO indicated that "Aquarius" pressure bubbler water coolers are manufactured for distribution in foreign countries, including Canada. Although unlikely it is conceivable that an "Aquarius" cooler with one of the model numbers listed above could have been transported into the U.S.

Halsey Taylor Company

Halsey Taylor reports using lead solder in these models of water cooler manufactured between 1978 and the last week of 1987.

WMA-1	SCWT/SCWT-A
SWA-1	DC/DHC-1
S3/5/10D	BFC-4F/7F/4FS/7FS
S300/500/1000D	

In addition to these Halsey Taylor models, Halsey Taylor indicates that the following Haws brand coolers manufactured for Haws by Halsey Taylor from November 1984 through December 18, 1987 are not lead free because they contain two tin-lead solder joints. The model designations for these coollers are:

HC8WT	HC14W	HCBF7D
HC8WTH	HC4F	HCBF7HO
HC14WT	HC4FH	HWC7
HC14WTH	HC8F	HWO7D
HC14WL	CH8FH	HC2F
HC16WT	HC14F	HC2FH
HC4W	HC14FH	HC5F
HC6W	HC14FL	HC10F
CH8W	HCBF7	

NOTE: A number of water coolers have been deleted from the proposed list identifying them as not lead free. For information about these water coolers and others, refer to the January 18, 1990 Federal Register notice.

Water Conservation

The residents of Long Island use an average 100 gallons of water per person each day at home. Additional uses of our underground water supplies are utilized by businesses as well as the agricultural community. Recognizing the importance of conservation in protecting these limited supplies, the Commission has consistently supported and sponsored legislative measures which would result in conservation of this finite natural resource.

Water conservation may be realized through individual changes in behavior as well as through legislative and regulatory changes which reduce the per capita consumption of water, thereby reducing the need to develop new supply sources.

The Commission has sponsored and/or supported a number of legislative initiatives which seek to achieve this goal. For example, in 1987 the Commission sponsored legislation (Chapter 558, Laws of 1987) which required plumbing fixtures to meet stricter New York State water performance standards. In 1989, such standards were reviewed, resulting in the enactment of Chapter 424 of the Laws of 1989 which further reduced plumbing fixture flows.

Economics also provides a mechanism for the promotion of conservation measures. Recognizing this fact, the Commission sponsored legislation (Chapter 369, Laws of 1988) which requires public water suppliers to meter service to its customers. As a result, consumers will pay only for what they use.

In an effort to reduce water consumption in government-owned buildings, including academic facilities, the Commission was successful in sponsoring Chapter 399 of the Laws of 1989. This measure directs the Office of General Services and the Trustees of the State University to conduct a survey of water use and conservation measures and to provide an implementation plan for such measures.

The Commission is currently sponsoring legislation which seeks to facilitate additional uses of conservation measures at sewage treatment plants (See Chapter VII, Legislative Program).

Education and public awareness are key components in successfully attaining a "conservation ethic" (see Table 1). Through the variety of educational programs that the Commission undertakes in the fulfillment of its mandate, including the Long Island Water Resources Curriculum, it is hoped that such an enlightened change in the attitudes and behavior of the public may be realized.

Table I

The following table lists conservation measures along with the water savings an average family of four can achieve:

ITEM	BAD USE - GALS. USED		GOOD USE - GALS USED		GALS. SAVED
Shower	Water running	25	Wet down, soap up, rinse off	9	16
Brushing Teeth	Water running	10	Wet brush, rinse briefly	.5	9.5
Dishwashing	Tap running	30	Wash & rinse in ponded water	5	25
Shaving	Tap running	20	Ponded water	1	19
Tub Bath	Full	35	1/4 full(minimal)	10	25
Automatic Dishwasher	Full cycle	16	Short cycle	7	9
Washing Hands	Water running	2	Ponded water	1	1
Toilet	Old fixtures	5-7	New fixtures or old fixtures with displacement inserts	3-6	2.5
Washing Machine	Full cycle	60	Short cycle	27	33
TOTALS		203-205		63.5	140

Taken from: Suffolk County Department of Health Services
Suffolk County Water Conservation Program,
Water Conservation Is In Your Hands, p.1.

SECTION III
COMPREHENSIVE GROUNDWATER & WATERSHED MANAGEMENT

SPECIAL GROUNDWATER PROTECTION AREAS

The designation of nine Special Groundwater Protection Areas (SGPA) in Nassau and Suffolk Counties was accomplished through Commission-sponsored legislation, the "Sole Source Aquifer Protection Act" Chapter 628 of the Laws of 1987. This initiative was enacted in recognition of the pressing need to protect the remaining undeveloped groundwater watershed areas on Long Island in order to ensure a future potable water supply.

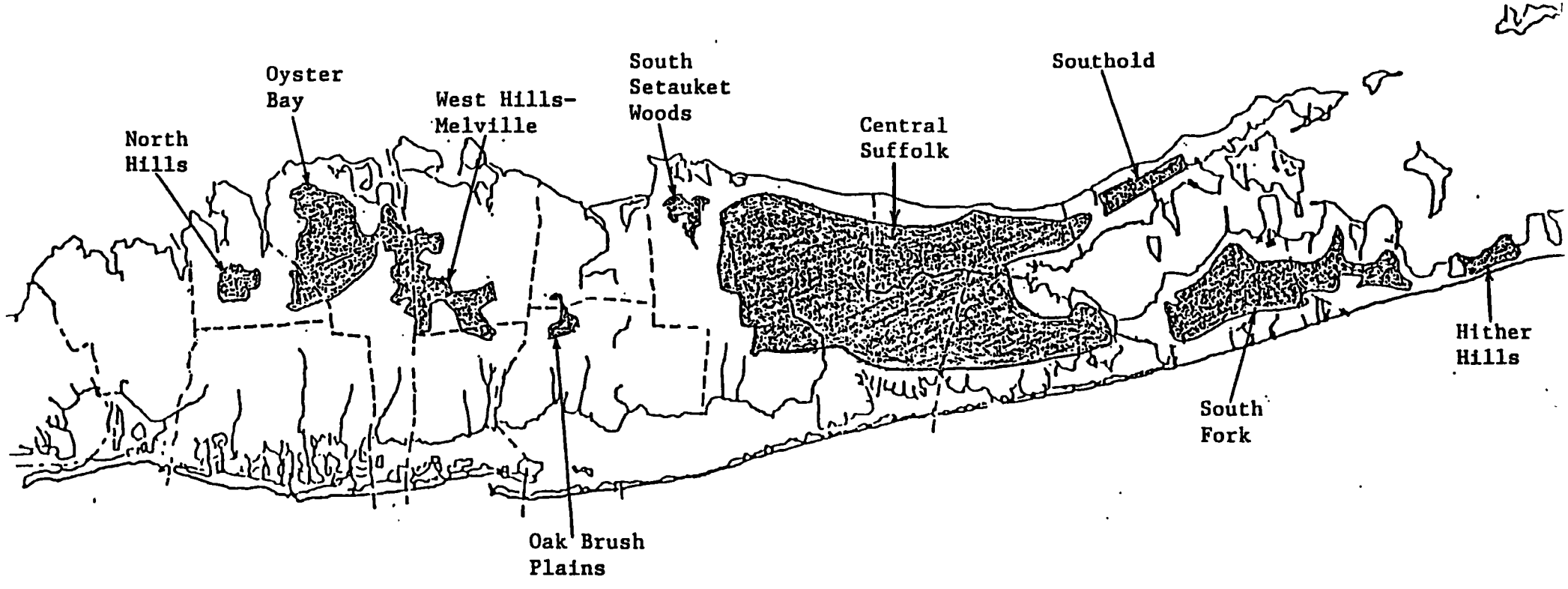
These nine areas represent the most critical and productive contributors of deepflow recharge to the Long Island aquifer system, therefore the most in need of protection.

These nine areas are:

* The North Hills area of the town of North Hempstead
* The area of the Northeastern villages of the town of Oyster Bay
* The Woodbury road-West Pulaski road area, town of Huntington
* The West Hills area of the town of Huntington
* The Oak Brush Plains of the towns of Babylon and Huntington
* The Setauket Pine Barrens, town of Brookhaven
* The Central Pine Barrens of the towns of Brookhaven, Riverhead and Southampton
* The South Fork Morainal Forest of the towns of Southampton and East Hampton, and
* The Hither Hills area of the town of East Hampton

At the request of the Town of Southold, supported by the Long Island Regional Planning Board, an additional area has been included in the SGPA project. This area, located within the Town of Southold's jurisdictional boundaries, will be incorporated into the comprehensive management plans if approved by the Commissioner of the Department of Environmental Conservation.

The Commission, in accordance with its legal mandate, has always supported the protection and preservation of watershed lands. These nine areas, which range in size from the 1,034 acre North Hills SGPA in Northwestern Nassau to the approximately 85,000 acre expanse known as the Central Pine Barrens, have not been extensively developed and accordingly provide a significant quantity of uncontaminated recharge water to our aquifer system.



SPECIAL GROUNDWATER PROTECTION AREAS

The determination of the SGPA preliminary boundaries were delineated on the basis of the quality of recharge, current land use, and the quantity of open space. The first studies completed on the SGPAs have focused on the necessity for wise management of land use in order to maximize recharge, minimize contamination, and provide protection to this area. In 1986, in an effort to optimize this goal and incorporate it into the comprehensive master plan, the Long Island Regional Planning Board prepared a report entitled, "Special Groundwater Protection Area Project: For the Oyster Bay Pilot Area And Brookhaven Pilot Area." It would seem that from this report and previous land use and hydrological studies that enforcement of a comprehensive management plan can minimize contamination of surface water and groundwater by optimizing open space in conjunction with appropriate development and by prohibiting inappropriate activities.

The Long Island Regional Planning Board has been designated as the planning entity responsible for the comprehensive management plan, which will encompass each of the nine areas. Commission staff is represented on the Special Groundwater Protection Advisory Council which provides technical support and guidance in developing this management plan. This plan is expected to be completed in Fall 1990.

The goals of the comprehensive management plan as set out by Article 55, Environmental Conservation Law are (in part) to:

> "Acknowledge the variations in hydrology, water quality, and land uses within designated areas, and the existence of certain areas which are of vital importance in maintaining water quality in the designated sole source aquifer area."
>
> and
>
> "Assure that such vital areas within designated sole source aquifer areas are protected and managed in such a way as to maintain or improve existing water quality."

The future of an adequate and uncontaminated water supply for Long Island is dependent upon recognizing the importance of these areas, and further to implement appropriate management techniques within the SGPAs in order to achieve these goals.

Among the recommendations contained in the Long Island Regional Planning Board's "Special Groundwater Protection Area (Pilot) Project" is the maintenance of low density (1-5 acres) development as well as increased attention to site design. The Commission has consistently opposed proposed development that seeks to "downzone" property within the SGPAs. In fact, in an attempt to protect these critical environmental areas, the Commission is currently sponsoring a number of legislative initiatives which will provide interim protection while the management plan is formulated as well as

provide improvements in required environmental review for proposed development projects, and finally legislation which would prohibit certain zoning changes which could be detrimental to water quality and/or quantity (see Chapter VII, Legislation) within these SPGAs. Of particular concern are a number of actions taken by municipalities with respect to proposed development projects within some of the SGPAs. For example, concern continues regarding the Froelich Farm Project; a proposal which would, if permitted, result in 256 condominium units. The Commission testified at a public hearing held September 6, 1989 about potential impacts to the respective SGPA. The Stone Hill Project continues to be a potential threat to the North Hills SGPA since the Nassau County Health Department has not rejected the developer's request for a waiver from the safeguards required through Article X of the Nassau County Health Code. However, the area that clearly has the largest number of threats from development is the Central Pine Barrens SGPA. This area, which is the largest of the SGPAs as well as the only SGPA, portions of which contain absolutely uncontaminated water in the aquifer below, currently has in excess of 200 development projects proposed within its boundaries. As a result, this area is currently the subject of the largest lawsuit regarding the New York State Environmental Quality Review Act in New York State history.

This legal action, filed in accordance with Article 78 of the New York State Civil Practice Law and Rules, asserts that government agencies have not considered the cumulative effects of development in this "island eco-system" and are thus prohibited from granting approvals to proposed projects. This lawsuit asserts that New York State environmental law requires such a cumulative assessment and that Town and County agencies have failed to fulfill this requirement of the New York State Environmental Quality Review Act (Environmental Conservation Law, Article 8). In support of this action, Assembly Commission staff has contributed supporting documentation for the plaintiffs in this action.

Among the issues that are in most need of addressing within the context of the SGPA study are:

* The cumulative impacts of the multitude of activities proposed or occurring within the SGPAs.

* The maximum zoning density, allowable to maintain (or improve) existing water quality within the SGPAs as it relates to organic compound contamination.

* Whether State Pollution Discharge Elimination System (SPDES) discharges, including those from sewage treatment plants, should be allowed or limited within the SGPAs.

* Recommendations on the acceptability of industrial and commercial zoning within SGPAs and controlling of existing industrial facilities.

* Information exchange and implementation of recommendations among and by local municipalities regarding the best management techniques for the SGPAs.

As a member of the Advisory Committee, the Commission continues to provide its input in order to ensure that the goals, objectives, and intent of the Sole Source Aquifer Protection Act are achieved.

GROUNDWATER QUANTITY: WATER WITHDRAWAL CAPS FOR NASSAU COUNTY

Background:

In 1986 Commission-introduced law was enacted which, among other groundwater protection measures, required the DEC to evaluate pumping limitations as part of a water supply management program. These measures were taken out of concern documented in a number of groundwater studies, that Long Island's aquifers are experiencing serious water quantity stress due to widespread overpumping and contamination of groundwater.

As the agency responsible by law for issuing groundwater withdrawal permits the DEC also has the authority to modify these permits. As the condition of the groundwater quantity changes, the DEC may modify these permits to adapt to such changes. Permits issued, reissued, or renewed after November 30, 1986 are valid for a period of ten years. Permits older than this date have an infinite life span unless the DEC determines to modify them.

Based on its policy and supported by the law, the DEC modified existing permits and imposed annual pumpage limits on 41 water suppliers in Nassau County. These limits were based on evidence from studies and data from United States Geological Survey (USGS), Environmental Protection Agency (EPA), Long Island Regional Planning Board and DEC.

Modifications made on the 41 water district's water supply permits include limitations on the maximum annual and five-year average pumpage from all wells, plus requirements to develop and implement a water conservation program. In addition, these suppliers are required to report pumpage on a monthly basis.

Review of 1990:

Table 1 presents the comparison of 1990 pumpage with the annual and five year cap for each of the water districts. The average daily pumpage during 1990 fell below the limits placed on the suppliers by the DEC. An average of 167.8 million gallons per day (mgd) was withdrawn from the Nassau County aquifer system by the 41 water suppliers. This may in part be a result of increased conservation measures by consumers. More likely however, it is probably a reflection of a year of higher than average rainfall (see Table II). The Mineola rain station of the USGS recorded 26.22 inches of rain during the May-through-September irrigation season. Rainfall during these summer months of 1989 and 1990 has exceeded the ten year average by 75 and 26% respectively, resulting in decreased outdoor water use.

Groundwater Quantity Recommendations:

1. A specific schedule is needed to ensure the timely development of specific criteria related to quantity issues of the region's water resources. Some parameters that need to be considered are: stream flow rates and start-of-flow points in specific streams; acceptable levels of surface ponds, lakes and otherwise unregulated freshwater wetlands; minimum and maximum acceptable rates of change, including warning levels when conditions approach but do not exceed acceptable limits. Similar parameters should be developed for determining the acceptable thickness of freshwater lenses in insular areas where the freshwater lens is completely underlaid by saltwater. The New York State Department of Health, Nassau County Departments of Health and Public Works, Suffolk County Department of Health Services and the New York City Department of Health and Environmental Protection would assist DEC in developing these parameters. Input should also be sought from other interested and affected agencies such as the United States Geological Survey and the Commission.

2. A system for integrating all of Long Island's data collection and management is needed. A comprehensive ground and surface water monitoring system should continue to be developed to determine where and whether regional or subregional groundwater depletion is occurring and if so, whether such an occurrence is accelerating, decelerating or stabilizing. As new monitoring information is produced, it should be incorporated into existing groundwater research and modeling activities of the USGS, DEC, NYSDOH, and Nassau County Departments of Health and Public Works.

3. Since water conservation is apparently the primary technique being utilized to provide sufficient water supply, DEC should strictly enforce the pumpage limitations and conservation measures for Nassau County water supplies.

4. The water suppliers, with the assistance of a DEC Water Conservation Manual, should pursue other conservation techniques in addition to sprinkling restrictions.

5. All water suppliers should institute seasonal or increasing rate structures for residential and commercial/industrial customers.

6. The numerous existing water conservation plans of the Nassau municipalities and water districts need to be summarized and the best of the measures should be integrated into all permits.

7. Although the 41 water suppliers account for approximately 80% of the water withdrawn from Nassau County's aquifers, DEC should modify the permits of the wells accounting for the remaining 20% (industrial, commercial, public service) as soon as possible so that almost all water withdrawn has a pumpage cap thereby instituting conservation plans within all catego-

ries.

8. A clear framework for water resource management activities is needed for Nassau County. Accordingly, the county should complete its work on updating a Master Water Plan and implement measures not already in place as soon as possible. In addition, the Nassau County Water Resources Board should be expanded in membership and scope to provide direction and a fresh perspective for water resource planning for Nassau County.

TABLE 1
Comparison of Actual Pumpage with Pumpage Limits
Nassau County Public Water Suppliers
(all data in million gallons/year)

Water Suppliers	Corresponding Map Numbers	1990 Pumpage	Annual Cap	% above(below) Annual Cap *	1987-90 Average Pumpage	Five Year Cap	% above(below) 5 Year Cap **
Town of Hempstead Five District Aggregate (Bowling Green, East Meadow, Levittown, Roosevelt Field and Uniondale)	4,7,20,36,41	5672	6759	[16.1]	6033	5947	1.4
Lido Point Lookout	21	315	391	[19.4]	321	357	[10.1]
Albertson W.D.	1	685	807	[15.1]	732	727	0.7
Bayville Village	2	285	356	[19.9]	297	336	[11.6]
Bethpage W.D.	3	1186	1588	[25.3]	1248	1435	[13.0]
Carle Place W.D.	5	480	581	[17.4]	503	551	[8.7]
Citizens W.S. Co.	6	1483	1753	[15.4]	1531	1693	[9.6]
Farmingdale Village	9	388	403	[3.7]	379	382	[0.8]
Franklin Square W.D.	10	673	735	[8.4]	680	710	[4.2]
Freeport Village	11	1743	1795	[2.9]	1765	1748	1.0
Garden City Park W.D.	11	1068	1200	[11.1]	1094	1150	[4.9]
Garden City Village	12	1330	1836	[27.6]	1458	1742	[16.3]
Glen Cove City	28	1371	1666	[17.7]	1420	1582	[10.2]
Hempstead Village	16	2301	2135	7.8	2239	2047	9.4
Hicksville W.D.	17	2338	2782	[16.0]	2453	2632	[6.8]
Jamaica W.S. Co.	18	3765	6180	[39.1]	4404	5803	[24.1]
Jericho W.D.	19	3770	4361	[13.6]	3910	4074	[4.0]
Locust Valley W.D.	22	444	560	[20.7]	499	494	1.0
Long Beach City	2	1284	1336	[3.9]	1310	1302	0.6

TABLE 1 Continued
Comparison of Actual Pumpage with Pumpage Limits
Nassau County Public Water Suppliers
(all data in million gallons/year)

Water Suppliers	Corresponding Map Numbers	1990 Pumpage	Annual Cap	% above(below) Annual Cap *	1987-90 Average Pumpage	Five Year Cap	% above(below) 5 Year Cap **
Long Island Water Corp	24	9750	11015	[11.5]	10341	10618	[2.6]
Manhasset-Lakeville	25	2182	2851	[23.5]	2454	2600	[5.6]
Massapequa W.D.	26	1781	2111	[15.6]	1712	1965	[12.9]
Mineola Village	27	935	1124	[15.2]	1024	1106	[7.4]
New York Water Service	29	5266	5946	[11.4]	5343	5684	[6.0]
Old Westbury Village	30	465	562	[17.3]	472	510	[7.5]
Oyster Bay W.D.	31	385	429	[10.3]	392	407	[3.7]
Plainview W.D.	32	1577	1981	[20.4]	1715	1891	[9.3]
Plandome Village	33	71	109	[34.9]	73	99	[26.3]
Port Washington W.D.	34	1151	1464	[21.4]	1306	1415	[7.7]
Rockville Centre Vill.	35	1303	1574	[17.2]	1380	1505	[8.3]
Roslyn W.D.	37	1114	1436	[22.4]	1190	1344	[11.5]
Sands Point Village	38	246	345	[28.7]	264	302	[12.6]
Sea Cliff Water Co.	39	436	481	[9.6]	439	462	[5.0]
South Farmingdale W.D.	40	1408	1697	[17.0]	1413	1595	[11.4]
Westbury W.D.	42	1024	1185	[13.6]	1055	1117	[5.6]
West Hempstead W.D.	43	1107	1309	[15.4]	1112	1211	[8.2]
Williston Park	44	440	516	[14.7]	448	491	[8.8]
County Totals		61239	73359	[16.5]	64684	69034	[6.3]

NOTES: * Comparison of 1990 pumpage versus annual pumpage CAP. Brackets [ ] indicate that 1990 pumpage was below the CAP, by the percent indicated.

** Comparison of 1987 through 1990 average pumpage versus five year pumpage CAP. Brackets [ ] indicate actual pumpage below the CAP, by the percent indicated.

SOURCE: Nassau County Department of Public Works

Table 2

Average Summer and Winter Pumpage*

(In Millions of Gallons Per Day, MGD)

Year	Annual	Winter	Summer	Summer Rainfall (Inches)
1980	194	140	259	10.96
1981	179	137	233	15.87
1982	180	139	227	16.17
1983	195	144	261	17.75
1984	184	147	227	29.28
1985	188	150	232	23.52
1986	200	147	264	16.15
1987	185	147	233	17.21
1988	188	146	240	19.29
1989	167	142	197	36.40
1990	168	139	202	26.22
Average	184	143	234	20.80

*Summer months include May, June, July, August, and September.
Winter months include November, December, January, February and March.

SECTION IV
SURFACE WATER PROTECTION

SURFACE WATER PROTECTION

Long Island's water resources are not limited to its drinking water supplies. All surface waters from the smallest ponds to significant rivers such as the Peconic and including the entire marine ecosystem contribute greatly to the richness that makes Long Island a desirable place to live. The Commission believes that for environmental, economic and quality of life reasons we must exercise prudence as we make use of Long Island's surface water resources.

A. **Marine**

The marine resources which surround Long Island represent a great environmental, recreational, economical and commercial importance to a vast number of people. Changes that occur in and around the waters of the Long Island Sound, the Peconic Bay, the South Shore Bays and the Atlantic ocean affect not only Long Islanders, but fellow New Yorkers and inhabitants of Connecticut, New Jersey and Rhode Island as well. In some instances of fishery management, States such as Maine and South Carolina may feel the impact of New York actions.

During the 1980's a great awareness of the problems that confront our marine environment developed. Oil spills in Alaska, California and New York Harbor along with beach wash-ups of hospital waste have, without a doubt, contributed to this awareness. The result has been action of various kinds to remedy and protect these water resources. Studies have commenced to examine the sources of pollution and to propose responses in respect to these problems. The Long Island Sound Study, the New York - New Jersey Harbor Estuary Program and the Brown Tide Comprehensive Assessment and Management Program all fit into this category.

While the final findings of these studies are eagerly awaited, measures have been taken to create an atmosphere so that proposed measures can be acted upon quickly with the cooperation of the affected states and the federal government. The Bi-State Committee on the Long Island Sound, comprised of officials from New York and Connecticut constitutes such an effort.

The Commission's mandate to investigate, evaluate, and make recommendations for the preservation and protection of Long Island's water resources includes the concerns discussed above. The Commission has assumed an active role in the future of these marine resources by participating in these studies and committees. By doing so, the Commission will continue to formulate and promote measures and legislation designed to ensure a cleaner, healthier marine environment for the future.

Fisheries Management:

The management of fisheries in the waters which surround Long Island is not a simple task. The fish, shellfish and crustaceans, which inhabit these waters know nothing of international, state, or local boundaries. In order to prevent or eliminate overfishing of the species from occurring, careful management must take place. This management involves the gathering of many differing and intricate kinds of data and the analysis of that data with that of other states.

The outcome of the analysis of that data can lead to the imposition of minimum size limits to protect non-mature fish so that they may reach spawning age. Other fisheries may require stricter, more comprehensive forms of management such as establishing possession limits mandating open seasons, and in the case of commercial vessels establishing gear restrictions. (See chart for a listing of N.Y. minimum size limits). Monitoring, of course, must be continuous so that management options can be adjusted to the stock of the fishery. In New York the DEC is responsible for the management of living marine resources. However, the Legislature has the authority to set management methods for a number of species which are highly or over exploited.

There are four types of fish which inhabit our waters. Anadromous fish are born in fresh water rivers and spend their early lives there for growth and protection. Their second stage of life begins with a move into brackish waters, eventually entering the ocean for feeding migrations. As Spring arrives, the now adult fish will return to their fresh water origins for spawning. The striped bass follows this life cycle. A decline in numbers of this fisherman's favorite has led the DEC to institute strict measures to halt and correct this decline (see chart for current regulations).

Fish which remain within an estuary their entire life such as winter flounder and blackfish are estuarine fish. The winter flounder population has been on the decline recently and while the general consensus is that this is due to overfishing, other chief reasons are the loss of habitat and an increase in pollution. Development of areas around the bays, salt ponds and wetlands has taken away from the areas in which these fish spawn. The Legislature in 1990 passed Commission-generated legislation which increases the minimum size limit of winter flounder to 9" for recreational fishermen and 10" for commercial fishermen during the year 1990. In 1991 those limits will be raised to 10" and 11" respectively.

Coastal migratory fish move along the eastern shoreline usually moving into New York's shallow waters in the spring and summer at the young to adult stage and then travelling south through deeper waters for the fall and winter. Most fish of this kind spawn in waters other than those close to New York's. Examples of these fish include bluefish, fluke, weakfish, porgies and sea bass. Both

NEW YORK MINIMUM SIZE LIMITS

Species	Recreational Catch	Commercial Catch & Sale
Winter Flounder	9"	10"
Weakfish+	12"	12"
Summer Flounder/Fluke	14"	14"
Striped Bass* A. Marine (1990)	36"	24"-28"
B. Hudson River		
[G.Washington Bridge to Troy Dam]	18"	No Commercial Fishery
Atlantic Cod	19"	19"
Atlantic Sturgeon	48"	48"
Trout (all species/tidal waters)	9"	
Bluefish	----	9"
Porgy/Scup	----	7"
Mackerel		7"
Black Sea Bass	----	8"
Lobster **	carapace measurement 3 1/2" -1990	**

\+ Possession limit of 3 in effect

* Recreational Management also includes a one fish possession limit,an open season of 5/8 to 12/15 Marine and 12/1 to 3/15 Hudson River; Commercial Management includes take limits, mandatory tagging, gear restrictions and an open season 9/1 to 12/15 in Esatern Long Island Waters only.

** Permits required for commercial and non-commercial taking.

the weakfish and the fluke have had size limits imposed upon them in New York waters.

Lastly, the big game fish such as sharks, cod, tuna, and haddock fall into the category of offshore fisheries. These fish are not normally caught within the three mile range which constitutes New York State waters but in federal waters within the 200 mile limit. These fish may or may not be migratory.

Lobsters are another important resource around the waters of Long Island. The principal fishing gear used to catch lobsters is the trap, or lobster pot. Lobsters are taken as a by-catch of commercial otter trawls. Size limits to protect the non-mature lobster measure the length of the carapace, or the shell above the tail section.

Fishery management needs the cooperative efforts of the federal government and states along the eastern seaboard. Fish caught within the 200 mile limit fall under the responsibility of the Magnuson Fishery Conservation and Management Act (MFCMA). The MFCMA manages the offshore fisheries as well as establishing regional fish management councils for each coastal state within the council's district. For example, fishery resources off New York are the subject of management plans prepared by both the New England Fishery Management Council which encompasses Connecticut and all states north and the Mid-Atlantic Fishery Management Council which encompasses the states from Virginia to New York. These councils prepare management plans for fisheries within their jurisdiction. Once a management plan is prepared by the council, the U.S. Secretary of Commerce must approve the plan and implement it through the National Marine Fisheries Service.

In addition to these regional councils, management plans for shared fisheries such as weakfish are devised by a body known as the Atlantic States Marine Fisheries Commission (ASMFC). The ASMFC is composed of 15 east coast states which implement interstate management plans with the cooperation of the U.S. Fish and Wildlife Service.

Although these organizations provide recommendations and data, it is the responsibility of individual states to implement laws and regulations regarding fishery management.

Long Island Sound Study:

In November, 1991 the culmination of the six year effort by the US EPA and the states of New York and Connecticut, known as the Long Island Sound Study will result in the Comprehensive Conservation and Management Plan (CCMP) for the Long Island Sound. The proposed contents of the plan were outlined in the Study's 1988 Annual Report and will address five priority issues and management solutions --Hypoxia; Toxics; Pathogens; Floatables; and Living

Marine Resources.

Hypoxia is a condition which reflects the amount of oxygen in water and affects most marine life. When the dissolved oxygen level in water falls below a certain level, 3 parts per million (ppm), marine animals experience a stress to their systems and, unless they can escape to an area not affected by hypoxia, they may suffocate and die.

While hypoxia can occur naturally, it is the added strains that man places upon the marine environment that concerns the Long Island Sound Study. Sewage treatment plants which discharge nutrient rich effluent are a major contributor to the water borne total nitrogen in the Sound. The study has been monitoring effluent at selected plants to help provide data for the development of an accurate water quality model.
Rivers that empty into the Sound are transporters not only of effluent from STP's, but also industrial discharges, and storm water runoff from urban and agricultural land. These combined sources make rivers, the primary source of nitrogen entering into the Long Island Sound. Various study experiments and monitoring programs are all providing for the development of a water quality model which will simulate the movement of water and nutrients within the Sound for a variety of situations. This will allow the LISS to target funds toward reducing sources that will have the greatest effect on reducing hypoxia in the Sound

Toxic contaminants in the Sound originate from chemicals, industrial products and compounds released into the environment. The effects that these toxic wastes have on marine animals and the people who enjoy seafood is of great concern. The LISS is examining the status, trends and effects of contaminants in the sediment, water and organisms throughout the Sound.

Pathogens (disease producing bacteria or viruses) pose another unseen threat to man and marine life. Pathogens can enter the Sound from sewage, stormwater runoff and wildlife sources. Tests which indicate unacceptable levels of pathogens may result in the closure of beaches and shellfish beds. The standards for such measurements is one area of the Study's Working Group on Pathogens.

Floatable debris is the most visible of these concerns. Litter washed up on our beaches, besides being unsightly can be of danger to animals and humans. Birds, fish, marine mammals and turtles can all choke to death on discarded waste mistaken for food. Medical waste poses a human health risk and may cause beach closures. The LISS is conducting aerial surveys of the region to identify the sources of debris more accurately. Reduction of floatables will be addressed in the CCMP.

These threats and how they impact the marine life whose health depends on water quality is another priority concern of the LISS. Assessing the condition of the principle fisheries and shellfish resources in the Sound comprises a significant component of the data that will be used as input for the water quality model.

In 1990 the Long Island Sound Study unveiled its Status Report and Interim Actions for Hypoxia Management. The Report outlined three management options to control the different sources of nitrogen which enter the Sound. These options, in terms of the range of technological alternatives, are the low level, mid-level and high level management scenarios. Estimates of the results of each scenario are made and contrasted with present conditions, conditions as a result of all treatment facilities reaching the secondary treatment level, and the pre-colonial conditions. Also outlined were Interim actions to be taken to aid in the future implementation plans of the CCMP. These actions include, but are not limited to, the establishment of a baseline for a "no net increase" nitrogen loading policy by the States; initiation of Biological Nutrient Reduction (BNR) retrofits at existing facilities; and integrating LIS nitrogen management objectives into the States' approved non-point source and stormwater management plans. The Commission, in response to the LISS' Draft of the Status Report and Interim Plan for Hypoxia Management, sent letters to EPA Regions I and II and the Connecticut and New York Departments of Environmental Conservation.

Both Co-Directors of the Commission participated in the National Audubon Society's "Listen to the Sound" campaign which, during fifteen hearings held around the Sound, solicited responses from the public, from elected officials and from State and federal agencies. The result was a Citizens' Agenda -- a compilation of citizen concerns and suggestions for action.

New York Bight Restoration Plan:

The New York Bight comprises the section of ocean which stretches from eastern Long Island and swings south to Cape May, New Jersey. This area suffers from the effects of the high density of industry, commerce and urban development within the coastal area. The New York Bight Restoration Plan is a three year effort, mandated by federal law, conducted by the U.S. Environmental Protection Agency (EPA). Its scheduled date for completion is April 1991.

NY-NJ Harbor Estuary Program (HEP):

The NY-NJ HEP is a five year cooperative program of federal, state and local interests designed to develop solutions to the dangers facing the Hudson-Raritan Estuary. It is a result of legislation passed by Congress which set up the National Estuary Program (NEP) which has so far deemed twelve valued estuaries nationwide as in need of attention and protection. The Hudson-Raritan Estuary is one of these estuaries. The HEP's goal is to establish and maintain a healthy, productive ecosystem and full beneficial uses of the Estuary. Its goal is intertwined with the goals of the New York Bight Restoration Plan and because of this the efforts of both are coordinated by the same Management Conference. Many of the

concerns of HEP are the same as those of the Long Island Sound Study but because of the abundance of shipping, industry and population, the estuarine environment is more degraded than that of the Sound's. The HEP plans to issue its CCMP in 1994.

Long Island Sound Bi-State Committee:

In 1989 the states of New York and Connecticut, recognizing their responsibility of their common resource, created the Long Island Sound Bi-State Committee. It is a priority of the Committee to act as a conduit for the introduction of new legislation in both states and to conform existing statutes and regulations governing the Long Island Sound environment. Other priorities and goals include creating and maintaining a constructive bi-state dialogue; providing linkage with the federal government; serving as a public forum for concerned parties; and heightening awareness and focusing attention on the Long Island Sound environment.

At the initial meeting three sub-committees were formed on Oil Spill Prevention and Contingency Planning, Water Quality, and Fisheries. The full Bi-State Committee is to meet no less than three times per year.

Brown Tide Comprehensive Assessment and Management Program (BTCAMP):

The Brown Tide Comprehensive Assessment and Management Program (BTCAMP) was initiated by the Suffolk County Department of Health Services (SCDHS)in response to the alga blooms which affected large areas of water around eastern Long Island. The bloom, given the name Brown Tide, severely hindered the shellfish industry, particularly in the Peconic System where it eradicated the scallop population. The brown tide also destroyed much of the eelgrass population resulting in the loss of habitat for shellfish and finfish. It is believed that the loss of eelgrass could result in the bay bottom becoming barren and stripped of life-supporting conditions.

The organism causing this trouble was identified as Aureococcus anophagefferens and has been closely monitored and studied by various parties. The Environmental Protection Agency and the National Marine Fisheries Service are conducting research in addition to Suffolk County. Areas of study by the SCDHS include groundwater-contributing areas; stormwater runoff-contributing areas; groundwater quality; Peconic System Water Circulation; and Point and Non-Point Sources.

The BTCAMP began in 1988. The study effort has concentrated on the Peconic System although it includes other water bodies which experienced the brown tide. A management plan, due in the Fall of 1991, will outline the costs, procedures and implementation schedule, sources of revenue, responsibilities of municipal and private agencies and allocation of effort.

Involvement and Participation by Commission:

Long Island Sound Study - attendance at both Technical Advisory and Management Committee meetings.

NY-NJ Harbor Estuary Program - attendance at both Science/Technical Advisory Committee and Management Committee meetings.

Bi-State Committee on the Long Island Sound - because the Assembly Co-Chair is the Vice Co-Chair of the Bi-State Committee, the Commission has been an active participant. Staff support and the preparation of the Bi-State's first annual report by Assembly Commission staff are notable examples of this involvement.

Fisheries Management - proposed legislation, meeting with DEC officials and the sponsoring of a graduate intern, Yuval Eshet, of the Marine Science Research Center, SUNY, Stonybrook. The internship consists of a comparative assessment of New York's and Connecticut's fishery management actions and goals. A report will be finalized in 1991.

B. Fresh

The streams, rivers, ponds and lakes throughout Long Island require more careful and thoughtful management than they now receive. For the most part, these surface waters are not great in size or number, however they constitute a significant portion of the valuable ecological and scenic areas of Long Island.

Stream Flow Augmentation:

An important part of the groundwater recharge and discharge system of Nassau County are its streams. Prior to the sewering of Nassau County, streamflow -- the visible portion of the natural discharge of the groundwater system -- existed as it always had, fed by both the aquifer rising to the surface and rainflow drainage. The streams carrying groundwater and stormwater drainage would flow towards the surrounding saltwater bodies.

In 1986 the sewering of Nassau County was, for the most part, completed. Sanitary sewers are helpful in safeguarding the quality of the groundwater; however, they have a detrimental effect on streamflow because they lower the groundwater table. The South Shore of Long Island with its higher population and associated large capacity sewage treatment plants, has shown the most effects caused by sewering. Most evident is the recent significant reduction or elimination in the average base flow rates, measured in cubic feet per second over a 50 year period in the streams of the South Shore.

The Commission has introduced to the Legislature its plan to aid streams throughout Long Island. The legislation, the Long Island Stream Management System Act, would create a process in which concerned citizens or groups could petition the DEC to designate a

stream includable into the Long Island Stream Management System. Once designated, a management plan would be formulated with the cooperation of various parties. A management plan would have to detail, among other things, the stream's attributes which are in need of protection and enhancement, desired levels of quality and quantity, activities which impact the stream and recommendations which would aid the implementation of the plan. In addition, the legislation requires State Agency actions to be consistent with the management plans.

Nassau County has initiated a new program titled "Streams and Wetlands Area Management Program" (SWAMP). It is a program designed to develop measures to mitigate the effects of sewering on streamflow and wetlands areas. Augmentation of streamflow will be initially tested with the addition of stormwater to streams. Stormwater augmentation may raise the water table near the streams and may provide a more evenly paced baseflow than would unimpeded runoff of stormwater through streams. This process could aid in the maintenance of important wetlands, improve quality and scenic attributes and increase groundwater recharge.

Case Studies on Fresh Water Issues:

Leeds Pond

Leeds Pond is a good example of what can happen to a stream or a body of fresh water if not enough attention is given to the impacts of local development and improper sediment control management.

Leeds Pond is located in the Village of Plandome Manor adjacent to Manhasset Bay and is owned by the Town of North Hempstead. The Science Museum of Long Island, a Nassau County facility, is located on Leeds Pond and offers residents and school groups a wonderful opportunity to study nature at work. The brackish pond is fed by several freshwater streams, one of which runs through the preserve. Connected to Manhasset Bay, the entire area is an ideal habitat for an abundance of wildlife.

Leeds Pond, however, is also part of Nassau County's drainage system and has felt the effects of local development. Two Nassau County drainage pipes, transporting road runoff from County, Town and Village roads, discharge into the southern end of Leeds Pond. As a result, the Pond's depth has been markedly decreasing as stormwater runoff, carrying road sand, sediment, fertilizer and debris has been discharged unhindered. Two large sandbars have been created by this addition of unwanted silt and sand and it is the most visible effect of the drain pipes that empty into the Pond. What is not evident to the eye is that its depth has been estimated to be not much more than two feet deep at any given point.

What these man-made influences have done is to speed up the natural process called eutrophication. This occurs when sediment and the decomposed remains of animal and plant life settle to the bottom of a pond and over time, eventually fill it in. Excess nutrients,

such as fertilizer, aid in quickening what is naturally a very slow process. This is achieved by encouraging the growth of plant life in the pond. As plant life thrives, there are more accumulated dead leaves to decompose. This decay, besides contributing to the bottom sediment, also depletes oxygen, causing the suffocation of fish.

Clearly, unless measures are taken to address Leeds Pond's problems, it will no longer be a viable pond and its drainage use would be seriously impaired in due course. Any remediation of the Pond should address removal of sand bars, maintenance dredging to prevent future sand bars, and implementation of soil conservation measures within the watershed area to reduce the frequency of dredging.

To this end, the Commission has acted by scheduling a series of meetings between representatives of the County, Town, Villages, Science Museum and local residents working towards the remediation of Leeds Pond. In addition to removing the sand bars and implementing soil conservation measures, this group is studying other ways to correct existing problems and enhance the Pond's environment. Possible action may include the construction of a basin to collect sediment before it enters the Pond and to allow for its removal under a routine maintenance program. Also being considered is the creation of an artificial wetland between the basin and the Pond to filter any remaining sediment or other pollutants.

In order to develop a workable remedial plan the Town has submitted an application for a Federal Clean Lakes Grant for a detailed study of Leeds Pond and engineering plans for remedial action to correct the sediment problem. Local officials from the County, Town and Villages, recognizing their collective responsibility for restoring and protecting this scarce natural resource, have risen above the jurisdictional fray and have committed to providing the 30% local matching funds for the Clean Lakes Grant. Final decision on the grant application will be made in the early summer of 1991.

However, funding for the Clean Lakes Grant Program is limited and the competition for these grants is great. As evidence of their strong commitment to the restoration of Leeds Pond, local, County, Town and Village officials have agreed to locally fund a study of the Pond to assess the problems and design a remedial action plan with a cost estimate, should the Clean Lakes Grant application be denied. The Commission hopes that its involvement in the creation of a unified plan of action with the Town and County will provide other concerned citizens with the basis with which to solve similar stream and pond problems and will highlight the need for Long Island stream management legislation.

DEC To Stock 26 Long Island Waters With Trout

By the April 1, 1991 opener, a mix of 10,000 rainbow and brown trout are scheduled to be stocked into 16 Long Island waters, with an additional 20,000 fish to be stocked into these and 10 other

waters by mid-May. Trout stocked waters on Long Island will be increased by one this year, with the addition of Upper Twin Pond to the regional stocking list. Upper Twin Pond, located in Wantagh (Nassau County) will receive 250 rainbow trout by opening day, with an additional 250 brown trout scheduled to be stocked by mid-April. It is anticipated that the excellent thermal and dissolved oxygen conditions characteristic of the Pond will result in good carryover of stocked trout.

Stream fishing prospects on Long Island appear especially good this year. The above-average precipitation that Long Island has been receiving over the past two years or so has resulted in increased stream flows and a concurrent expansion of trout habitat in many of our waters. This has been particularly evident in eastern Nassau and western Suffolk counties, where current stream flows are reminiscent of the areas's pre-development days.

Some of Long Island's lakes, streams and ponds still provide a viable habitat for fish such as trout and the Commission commends DEC's program to restock these waters. Such programs underscore the importance of these local waters, enhance the variety of fish species as well as provide local anglers with fishing opportunities.

The Commission believes the proposed Long Island Stream Management Act will provide the framework to improve the quality of local waters and expand the number of locations where fish restocking could take place.

NEW YORK STATE LEGISLATIVE COMMISSION ON WATER RESOURCE NEEDS OF LONG ISLAND

ASSEMBLYMAN
THOMAS P. DiNAPOLI
Co-Chair

ASSEMBLY OFFICE
DAVID STERN
Assembly Executive Director

January 15, 1991

Ron Manfredonia
US EPA, Region I
JFK Federal Building
Boston, MA 02203

Dear Mr. Manfredonia:

The New York State Legislative Commission on Water Resource Needs of Long Island is empowered by State law to make recommendations on activities that may affect the waters of Long Island. In keeping with this mandate, the Commission has reviewed the Long Island Sound Study's (LISS's) Draft Interim Plan for Hypoxia Management (IPHM) and would like to offer the following comments.

As you know, the overall objective of the LISS is to assess and provide a Comprehensive Conservation and Management Plan (CCMP) on the health of Long Island Sound. In order to meet this objective, the LISS characterizes the health of the Sound through five parameters: (1) hypoxia, (2) toxic contamination, (3) pathogens, (4) floatable debris and (5) living marine resources. Based on the materials available to the public to date, there is evidence that hypoxia is a wide spread problem. However, there is no quantified information to justify why hypoxia is a more pressing problem than the other four parameters. This information should be included in the Draft CCMP, since the hypoxia parameter has received the most significant amount of the study's resources. While there is no doubt that the serious nature of hypoxia warrants close attention and quick action, the ultimate improvement of the health of the Long Island Sound is also dependent on proper management of theother four parameters. This is best exemplified by comparing the IPHM with the LISS goals provided on page five. Managing the hypoxia problem will address many of the LISS goals. However, it does not address all the goals completely and some goals (i.e., #2, minimizing health risks associated with fisheries) are not addressed at all. Accordingly, we recommend that the CCMP address the four other health parameters as well as hypoxia has been addressed in the IPHM in order to meet the object of the study.

The primary impact of hypoxia identified in the IPHM is the loss of habitat for marine organisms. To quantify this impact the IPHM notes differences in fish catches in hypoxic and non-hypoxic waters. However, this analysis is based on the unsubstantiated assumption that all other factors are insignificant except for

Suite 213, 11 Middle Neck Road, Great Neck, New York 11021 (516) 829-3368

hypoxia. This assumption should be explained in the CCMP since the locations of the Sound that experience the worst hypoxia also tend to be highly developed, heavily fished and contain the most degraded wetlands or spawning grounds. Intuitively, these other factors would appear to be significant for a number of species of fish.

In regard to management options for controlling hypoxia in the Long Island Sound, the Commission found a notable and troubling absence of natural control (ie., wetlands). While the importance of natural systems and their relationship to nitrogen removal was touched upon, there are no interim actions or recommendations for either the public acquisition of existing wetlands or the creation of new or "artificial" wetlands for the purpose of wastewater treatment. Recent reports from the Environmental Protection Agency have documented the capacity of wetlands to reduce pollutants (especially toxics) with great effectiveness, while at the same time providing the most productive habitat for an estuary. The Commission is interested in what actions the LISS will recommend for implementing the "net gain" wetlands policy so that these invaluable ecosystems are protected, restored and created.

The A2 action of the specific interim actions for hypoxia management calls for the states to implement a "no net increase" in nitrogen loading policy. The Commission strongly supports this recommendation but recommends that this action reflect the larger policy issue of growth in the Long Island Sound area. Guiding the growth around the Long Island Sound is imperative if we are determined to make sure that our future actions are not offset by unwise and poorly planned development.

To summarize, the Commission supports the findings and recommendations of the IPHM; however, we recommend that the underlying assumptions and philosophies on the causes and solutions to the Sound's problems be clearly explained in the complete CCMP. In addition, the Commission recognizes that the 1991 work plan includes actions that may address our concerns. Accordingly, we recommend that these actions be pursued to the greatest extent possible.

The Commission appreciates the opportunity to comment on such an important study. If you have any questions, please feel free to call either myself or Simon Tschinkel, Environmental Analyst, at 516-829-3368.

Sincerely,

David A. Stern
Assembly Executive Director
DAS:st:jd

STATEMENT BY DAVID A. STERN, ASSEMBLY EXECUTIVE DIRECTOR
AUDUBON SOCIETY's "LISTEN TO THE SOUND" HEARING
GARVIES POINT PRESERVE, GLEN COVE, LONG ISLAND
JUNE 21, 1990

Good evening. My name is David Stern and I am the Assembly Executive Director of The New York State Legislative Commission on Water Resource Needs of Long Island. Our Commission was created in 1980 to investigate and make recommendations on activities that impact the water resources of Long Island. During the early years of the Commission, our focus was on issues relating primarily to drinking water protection. Accordingly, the Commission's research and recommendations have resulted in the enactment of strong groundwater protection measures such as the Long Island Landfill Law which prohibits new landfills within Long Island's critical groundwater recharge areas and phases out existing landfills by the end of this year and Special Groundwater Protection laws which protect the last relatively undeveloped areas over Long Island's critical groundwater recharge areas.

Over the past two years the Commission has been co-Chaired by Assemblyman Thomas DiNapoli. His interest and knowledge of marine issues has resulted in expanding the Commission's focus to include the preservation and protection of the marine resources of Long Island. This expanded focus has gotten the Commission extensively involved in recommending actions to improve fishery management and water quality improvements. Our Oil Spill Prevention and Contingency Bill, if passed, would set up a chain of command for

oil spill disasters, permanent command centers and strict guidelines for the storage and movement of oil tankers in the Long Island Sound.

The Commission is also an active participant of the Long Island Sound Bi-State Committee. The Bi-State is an example of the type of coordinated effort that will be needed to ensure full implementation of many recommendations of the Long Island Sound Study and to provide legislative responses that encourage both states to work together towards their common goal of a pristine Long Island Sound.

Much praise and thanks should go to the Audubon Society for its efforts to improve the Long Island Sound, especially its "Listen to the Sound" campaign which is an idea which has materialized at a crucial juncture in the Sound's fate. At a time when so many institutions, think-tanks, politicians and officials are charting the course of a renewed Sound, it is vital that the public's perception and concerns be voiced to ensure that the course of actions to be taken address these concerns.

Before the current study of the Long Island Sound there was another study. In 1975, the New England River Basins Commission published the results of a five year study on the Long Island Sound. The study was titled "People and the Sound". This first Long Island Sound Study (as I like to call it) opened its first chapter with this straight-forward bold message which is as pertinent today as it was 15 years ago:

> "This is a plan to save Long Island Sound. It deals with the water and the land around it. If you had to sum up a plan to save Long Island Sound in just two words, these words would have to be 'Guide Growth'."

That message was sent to the public 15 years ago. How have we fared since this study passed us the baton and told us to run with

it? The Commission recently reviewed this seemingly forgotten study and would like to share some of its findings.
The study published 14 independent planning reports. Each one developed solutions and made recommendations relative to a different subject area. Not all of the topics addressed concerned environmental conservation because this was a study not only concerned with Long Island Sound as a body of water but with the possibilities it offered to those who lived around it. The issues addressed in this study which are of most concern to our Commission include land use, water management and fish and wildlife.

In the area of land use, the first Long Island Sound study, citing its encouragement from the 1972 federal Coastal Zone Management Act, called for a long range management program to be developed. This program exists for the most part in New York's Department of State Coastal Zone Management efforts. However, because the State's Coastal Zone Management Program did not begin until almost ten years after the recommendation was made, the program has not been fully implemented. In addition, the program lacks the ability to bind Sound-bordering municipalities into participating in coastal zone management.

In the area of water quality, the first Long Island Sound Study provided sixteen recommendations to achieve clean water. Reviewing the recommendations and what had become of them offers both encouragement and disappointment. The encouraging factors arise from the fact that many recommendations are being addressed. What is disappointing is the time lapse between when the recommendations were made and when they finally were addressed, in some cases as late as the past year. I would like to quickly review some of these recommendations and mention their current status. The first Long Island Sound Study proposed:

1. Completing secondary treatment programs for STPs - on Long Island this has been done.

2. Reduce pollution from CSOs - New York City's 10 year study and abatement program has only recently begun. The Commission is currently sponsoring three bills to address this issue. STP Generators, CSO Separation and CSO Floatables.
3. Prevent or reduce oil spills - Current events indicate this issue is not adequately addressed. However, the Commission's Oil Spill Legislation is expected to be signed into law soon and Federal Legislation is being currently addressed by Congress.
4. Nassau County water conservation - DEC imposed water pumpage limitations for water suppliers has been in effect since 1986 and Nassau County is currently drafting an up-to-date Water Management Plan.
5. Study of nutrient enrichment of the Western Sound - this, of course, is the main focus of the current Long Island Sound Study.
6. Protect water supply sources - Suffolk County's 1/4% tax for land acquisition and our Special Groundwater Protection Area legislation are two programs that address this issue.
7. Develop "NPS" pollution standards - this issue has only recently received attention due in large part to amendments to the Federal Clean Water Act which mandates standards.
8. Restrict and regulate landfills and dumps - the Long Island Landfill Law calls for the phasing out of landfills on Long Island by the end of this year.
9. Vessel waste regulations - MARPOL addresses this issue and the federal EPA and NYS DEC are currently working towards full implementation.

An important chapter of the first Long Island Sound study focused on providing new opportunities for people to get to and enjoy the Sound. As a high priority recommendation, the study suggested establishing a "Long Island Sound Heritage" Program that would acquire, preserve or develop various parcels of land around the Sound, including islands, for conservation or recreational

enjoyment. This Long Island Sound Heritage funding would arise from Congressional appropriation and reserving state bond funds. One of the mentioned acquisitions was David's Island, which the study proposed should be purchased by 1978. As the battle over development of this Island wages on, it is interesting to note that the study's proposed use of David's Island included access by ferry from New Rochelle, 0.8 mile stretch of beach and 25-50 transient marina strips. The currently proposed development project is precisely the type of development that the first Long Island Sound Study warned us against.

Another insightful recommendation was the establishment of "Classrooms by the Sound" for marine education programs. If developed, these programs would create a necessary and promising understanding of marine issues among the youth that will have to continue the watch over the Sound's overall health. Neither this recommendation, a relatively simple one, nor the idea of a Long Island Heritage program, have been acted upon.

Why, we must ask ourselves, did some recommendations take so long to be acted upon? Why were some virtually forgotten? What can we learn from this experience? How does this apply to the Long Island Sound Study? Perhaps the erroneous perception that efforts to keep the environment clean hinder economic development and expansion caused environmental issues to be put on the back burner during the economically troubled mid-seventies to early eighties.

Perhaps it was easy to opt for easy solutions to minor problems while ignoring tough solutions to major problems. And, perhaps, the public lost interest and mass public support waned until recent events such as a wandering garbage barge, global warming, holes in the ozone, and catastrophic oil spills regained the public's attention.

The inaction of significant recommendations should not be allowed

to be continued. We are at a point where we should have been ten years ago. Within the next two years the EPA will finalize the Comprehensive Conservation and Management Plan (CCMP) of the current Long Island Sound Study and there are many positive aspects to this study's efforts. The Long Island Sound Study is assessing water quality issues as recommended in the first Long Island Sound Study. With the current Long Island Sound Study we will have a model for the Sound, which will give us an unparalleled understanding of the sources of the Sound's water quality problems and of the potential impacts from actions taken.

Because the Long Island Sound Study is a high visibility study with great support. We must ensure that the study meets the public's high expectations of a plan that solves Long Island Sound's problems. While hypoxia is certainly one of these problems, we should not let the Long Island Sound Study's emphasis on it overshadow other sensitive and perhaps equally important issues. Issues not under investigation by the study include the status of our harbors around the Sound, wetlands loss and coastal development. The harbors, not included in the forthcoming water quality model, must be included in any program to clean up the Sound. This is especially important because most Long Islanders experience Long Island Sound through contact with the harbors and not the deep waters of the Sound itself. Long Island Sound's wetlands are among some of our most precious assets. In fighting pollution, 20 acres of wetlands can naturally treat 1 million gallons of sewage every day. Wetlands provide habitat for an abundance of wildlife and more than one-third of the Sound's valuable fishery depends on this habitat for some part of their life cycle. Based on these values, the current Long Island Sound Study's Comprehensive Conservation Management Plan should include the use of existing and constructed wetlands in its recommendations to reduce nutrient loadings. Since 80% of the population of the Long Island Sound Region lives 10 miles from the shoreline, it is obvious that it is essential to have well managed

coastal development. A greater committment to our Coastal Zone Management programs is necessary. A first step should be placing the Secretary of New York State's Department of State on the Long Island Sound Study's Policy Committee.

Finally, as guardians of the Sound we must all do our part to avoid the time lag that occurred between the original Long Island Sound Study's proposed recommendations and their subsequent transformation into partial action. If we are to achieve our goals for the Sound, government officials and the public must continue their committment to move forward on recommendations that protect and preserve the Sound and its ambient resources.

Thomas Jefferson is credited as saying that "eternal vigilance is the price of liberty". If he were alive today, I'm sure he would rate the price of a clean environment equal to the price of liberty.

SECTION V
WETLANDS PROTECTION & ENHANCEMENT

WETLANDS PROTECTION AND ENHANCEMENT

One of the areas in which New Yorkers have shown an increasing concern is the protection of their environment, particularly the protection of wetland systems. Due to the intensity of development and the proximity of such development to significant wetland habitats, vigilance and a pro-active program of protection seems warranted.

Wetlands are one of nature's most productive resources and effective filtering systems, and include those areas we commonly identify as marshland, coastal areas, streams and rivers (Figure 1).

Historically, the values and benefits of wetlands have focused around wildlife habitat, flood/storm mitigation, and the recreational, aesthetic and educational aspects. However, interest regarding the utilization of wetlands, particularly restored or newly created wetlands, to maintain and improve water quality has recently received attention.

As such research is undertaken and while we await widespread applications of innovative treatment processes, the wetland protection program structure under which we are operating today is also in need of modernization and update. We must not continue to operate in the conflicting atmosphere of development versus environmental protection, relying on the mitigation of impacts. We are in need of a New York State Wetland Conservation Plan utilizing regional information reflecting the importance of the resource to the locality. This is of particular concern to an area such as Long Island with its abundance of "small wetlands" and the acknowledged need to provide adequate protection. A program which provides protection to privately-owned wetlands, manages public holdings to accentuate their beneficial functions whether they be wildlife habitat, aesthetic/recreational, educational, stream augmentation, or wastewater treatment, and initiates a comprehensive program to create and restore wetlands to enhance our natural resources communities.

New York State (and the nation) has historically lost many valuable acres of productive tidal and freshwater wetlands. Numerous reports have documented the fact that the nation as a whole has retained only one-half of its original wetlands. Although New York State's current regulatory programs have slowed the rate of wetland losses, these vital natural areas continue to disappear. We must embark on an aggressive program in order to retain what remains, and to improve those wetlands that have already been impacted upon.

Recognizing the importance of wetlands to the quality of life for the residents of New York State, this Commission held a public hearing on December 5, 1989 at Jones Beach State Park in order to assess New York State's Wetland Protection Programs and to seek ways to improve the programs.

As a result of this hearing, the Commission released a report entitled, "New York State's Wetland Protection Program: A New Direction". Contained within this Report are a series of recommendations and legislative initiatives which provide greater protection to New York State's wetlands. Among the recommendations are:

1. Increased research into areas of wetland remediation, reclamation, development and creation.

2. Increased educational efforts directed at the general public including economic, recreational, aesthetic and environmental benefits to invoke proactive (protective) response towards wetland protection.

3. Regional protection of wetland complexes including establishment of a "regional no net loss" policy.

4. Development of a New York State Wetland Conservation Plan based upon regional needs, goals, values, etc.

5. Wetland Status and Trends Analysis should be undertaken in areas under imminent threat of destruction. A pilot study may be appropriate for Long Island.

6. Implementation of the Tidal Wetlands Advisory Committee recommendations of 1988.

7. Enactment and implementation into law or regulation of recommendations of the Freshwater Wetlands Advisory Committee, particularly reduction from/elimination of the 12.4 acre requirement for jurisdictional control.

8. Increased research into the use of wetlands for treatment of domestic sewage, wastewater and stormwater.

9. Development of model zoning codes, master plans, and/or "special area management" plans to discourage economic incentives for development in wetland areas.

10. The DEC should develop policy guidelines to address issues where discretion is exercised independently. Examples include writing of permit conditions and differences regarding legalities of principal and accessory structures.

<u>Legislative Recommendation</u>

1. Passage of "21st Century" Environmental Bond Act

2. Passage of "Long Island Stream Management Program"

3. Passage of Recharge Basin Program

4. Passage of Waterless Toilet Pilot Program

5. Passage of Freshwater Wetlands Act Amendments

Additionally, the Commission provided testimony at a New York State Department of Environmental Conservation Hearing regarding proposed changes to the Nassau County Wetlands Map. This hearing, held in July 1989, adjusted boundaries to a number of existing wetlands as well as placed new wetland areas under the protection of the New York State Freshwater Wetlands Act (ECL, Article 24).

Figure 1.

WETLANDS FUNCTIONS

A. Flood conveyance - Riverine wetlands and adjacent floodplain lands often form natural floodways that convey flood waters from upstream to downstream points.

B. Barriers to waves and erosion - Coastal wetlands and those inland wetlands adjoining larger lakes and rivers reduce the impact of storm tides and waves before they reach upland areas.

C. Flood storage - Inland wetlands may store water during floods and slowly release it to downstream area, lowering flood peaks.

D. Sediment control - Wetlands reduce flood flows and the velocity of flood waters, reducing erosion and causing flood waters to release sediment.

E. Fish and shellfish - Wetlands are important spawning and nursery areas and provide sources of nutrients for commercial and recreational fin and shellfish industries, particularly in coastal areas.

F. Habitat for waterfowl and other wildlife - Both coastal and inland wetlands provide essential breeding, nesting, feeding and predator escape habitats for many forms of waterfowl, other birds, mammals and reptiles.

G. Habitat for rare and endangered species - Almost 35 percent of all rare and endangered animal species are either located in wetland areas or are dependent on them, although wetlands constitute only about 5 percent of the nation's lands.

H. Recreation - Wetlands serve as recreation sites for fishing, hunting and observing wildlife.

I. Water supply - Wetlands are increasingly important as a source of ground and surface water with the growth of urban centers and dwindling ground and surface water supplies.

J. Food production - Because of their high natural productivity, both tidal and inland wetlands have unrealized food production potential for harvesting of marsh vegetation and aquaculture.

K. Timber production - Under proper management, forested wetlands are an important source of timber, despite the physical problems of timber removal.

L. Historic, archeological values - Some wetlands are of archeological interest. Indian settlements were located in coastal and inland wetlands, which served as sources of fish and shellfish.

M. Education and research - Tidal, coastal and inland wetlands provide educational opportunities for nature observation and scientific study.

N. Open space and aesthetic values - Both tidal and inland wetlands are areas of great diversity and beauty and provide open space for recreational and visual enjoyment.

O. Water quality - Wetlands contribute to improving water quality by removing excess nutrients and many chemical contaminants. They are sometimes used in tertiary treatment of wastewater.

Taken From: Conservation Foundation, "Protecting America's Wetlands: An Action Agenda, The Final Report of the National Wetlands Policy Forum," p.10.

NEW YORK STATE LEGISLATIVE COMMISSION ON WATER RESOURCE NEEDS OF LONG ISLAND

NATOR CAESAR TRUNZO
CO-CHAIR

State Office Building
Islippauge, New York 11788
(516) 360-6206

GEORGE PROIOS
Co-Executive Director

ASSEMBLYMAN THOMAS P DiNAPOLI
CO-CHAIR

Suite 213, 11 Middle Neck Road
Great Neck, New York 11021
(516) 829-3368

DAVID A STERN
Assembly Staff Director

NOTICE OF JOINT PUBLIC HEARING

SUBJECT: New York State Wetland Protection Programs

PURPOSES: New York State's wetland protection programs currently attempt to achieve the protection of such systems in a number of ways including acquisition, management/stewardship, mitigation of detrimental effects from development, regulation of adjacent land uses, and restoration of degraded areas. However, New York has lost approximately half of its original wetlands and continues to have a net loss of wetlands every year.

New York State's wetland protection programs should be able to assess the attributes of a wetlands system, implement a regulatory program to provide protection, and management objectives which sustain the wetland(s) and adjacent lands.

This hearing will explore whether the legislative, regulatory, enforcement, educational, management and research efforts have resulted in a program which is effective and responsible in protecting wetland systems, including freshwater and tidal wetlands, streams, rivers, as well as water catchment areas.

DATE: Tuesday, December 5, 1989

TIME: 10:00 a.m.

LOCATION: West Bath House at Jones Beach State Park, Wantagh

TESTIMONY: Oral testimony by invitation, public comments will be taken at end of hearing. Written testimony may be submitted within 30 days following the hearing.

Subjects To Which Witnesses May Direct Testimony

1. Do the current program goals coincide with current knowledge of benefits of wetland systems? Are goals identified adequately? Issues of particular concern are:

   A. Habitat benefits of wetlands.
   B. Water treatment benefits of wetlands.
   C. Flood mitigation.

2. Why are we experiencing a net loss of wetlands?

   A. Depletion of our aquifers
   B. Other non-specific causes

   And what legislative and administrative changes are needed which would result in consistency, predictability, timeliness, effectiveness, and uniformity in attaining wetland protection? Issues of particular concern are:

   A. Point and nonpoint source pollution control programs and their effect on wetlands (particularly streams).

   B. Inter/Intra agency and interjurisdictional coordinated review and establishment of compatible priorities, objectives.

   C. Acquisition programs and use of alternative methods of land use protection measures i.e. conservation easements, management agreements.

   D. Ecological value to public vs. economic value to property owner (undue taking).

   E. Establishment of wetland boundary, site design (i.e. setback requirements, mitigation methods), and enforcement of required mitigation measures.

3. Can we move from a reactive posture of site specific permit decision making to a process which seeks to achieve "regional cumulative impact analysis"? If so, how?

   A. Establishment of "wetland specific land use category" by state and/or localities.

4. How can we best enhance, restore, and create wetlands?

   A. Use of economic incentives and/or disincentives.

   B. Use of "greywater" and/or treated sewage effluent.

   C. Stream augmentation project(s).

   D. Wetland assessment methodology, function.

   E. Education and research efforts.

5. How can we identify and implement best management/ stewardship techniques?

   A. Site specific wetland management with objective toward regional protection (Integrated wetlands management system).

B. Identification and measurement of wetland benefits; i.e. control of toxics, nutrient retention, wildlife habitat, flood mitigation.

C. Natural process and/or manipulation of resource; for what objective(s) (i.e., wildlife habitat, mosquito control, water quality).

D. Inventories of resource with protection strategies, and management plans i.e. "State Wetlands Conservation Plans."

E. Recharge Basin Management to improve wetland quality/ quantity.

6. Will the Commission's proposed legislation (attached) contribute to the enhancement of wetland protection in New York State?

Witnesses should direct their testimony to the above-mentioned issues and should limit testimony to 15 minutes and those issues which they can provide pertinent information. Ten copies of prepared testimony should be submitted to the panel.

For information contact: Michael Deering
(516) 829-3368
(516) 829-3548

PARTICIPANTS

JOINT PUBLIC HEARING: NEW YORK STATE WETLAND PROTECTION PROGRAMS

JONES BEACH - - DECEMBER 5, 1989

Richard Lent	Seatuck Research Program
Harold Berger	NYS Dept. of Conservation
Phillip Weinberg	NYS Freshwater Wetlands Advisory Committee
Bill Gill	US Dept. of Interior
Kevin McDonald	Group For The South Fork
James Bagg	Suff Co. Planning & Pine Barrens Review Commissions
Emerson Hasbrouck	Cornell Coop. Extension
John Turner	Environ. Planning Lobby
Maria Stanco	Citizens Campaign For The Environment
Bruce Shroyer	Sands Point
Myron Blumenfeld	Residents For A More Beautiful Port Washington
Bruce Anderson	Town of Southampton

SECTION VI
PUBLIC EDUCATION

WATER WEEK 1990

The year 1990 marked New York State's sixth annual "Water Week" celebration of our vast water resources during May 6-12. Promoting water resources education on Long Island has always been one of the Commission's primary objectives and has been accomplished through a variety of mechanisms such as conferences, speaking engagements, publications, and legislative hearings. Although the Commission's educational efforts extend to all age groups, special efforts are made to increase awareness among Long Island's students since they will be the future managers of our aquifer system. Since the annual "Water Week" Celebration is a week long, many special events can be sponsored to educate Long Islander's of all ages about the hydrogeology of our sole source aquifer.

POSTER AND MODEL CONTEST:

In an effort to help students learn about our fragile aquifer system and how their individual actions can either negatively or positively impact their drinking water supply, the Commission sponsored its annual Water Week Poster and Model Contest. The contest theme was Long Island's Groundwater Resource and was open to elementary through high school students and handicapped agencies across Long Island.

The 1989 contest concluded with an awards ceremony held at the State Office Building in Hauppauge. Although the purpose of the ceremony was to present the prizes to the winners of the contest, many entrants and their families also attended the ceremony so that they could view the finalists' works and wander among the Water Week EXPO exhibits and speak personally with the EXPO participants. In addition, the ceremony included a theatrical performance entitled "Alice in Waterland" performed by the Small Change Original Theater, Inc. The skit focused on the importance of drinking water and its conservation. Approximately two hundred people were present at the ceremony and the troupe's enthusiasm resulted in laughter and participation by children and adults alike.

The winners of the 1989 Water Week Poster Contest were as follows: ELEMENTARY (Grades 1-3): (FIRST) Philip Soman, Gardiner Avenue Elementary School; (SECOND) John Rojecki, Gardiner Avenue Elementary School; (THIRD) Jennifer Knipper, Commack Road Elementary School; ELEMENTARY (Grades 4-6): (FIRST) Ira Shetty, West Gates Elementary School; (SECOND) Alexander Mutlos, George H. McVey Elementary School; (THIRD) Jeanine Daly, H.B. Thompson Middle School; JUNIOR HIGH: (FIRST) Corry Reed, West Babylon Junior High School; (SECOND) Christopher Hayes, Memorial Junior High School; (THIRD) Melissa Kibler, Garden City Middle School; HIGH SCHOOL:

(FIRST) Marnie Rose, Comsewogue High School; (SECOND) Gary Goldsten, Sachem North High School; (THIRD) Christian Berntsen and Andres Benach, Ward Melville High School; HANDICAPPED AGENCIES: (FIRST) Family Residences and Essential Enterprises (F.R.E.E.)- Level 5, East Setauket; (SECOND) Suffolk Child Developmental Center, Smithtown; (THIRD) F.R.E.E.- Level 4, Smithtown.

The 1989 Model Contest winners were: HIGH SCHOOL: (First) Tara Adomovich, Garden City Middle School; (Second) Scott Streater, Garden City Middle School; (Third) Stuart Klein, Glen Cove High School; HANDICAPPED AGENCIES: (First) Nassau Center for the Developmentally Disabled, Woodbury.

The 1990 Water Week Poster and Model Contest had been altered to include a new Junior High School Model Category. The full contest requirements and prizes are as follows:

CONTEST REQUIREMENTS

All entries must include: 1) the student's name
2) grade category
3) name and address of the school.

This information is to be placed on the back of the posters and attached to the models by a 5x7 index card.

Every entry must be received in my Commission office no later than APRIL 2, 1990 and must be accompanied by a completed copy of the enclosed release form or it will not be accepted.

SUGGESTED TOPICS

The following topics are only suggestions. Students are encouraged to use their own ideas providing they pertain to groundwater. Surface waters (ponds, streams, lakes) and marine waters are NOT acceptable.

1. Water Uses
2. Water Conservation, Protection, Preservation
3. Sources Of Groundwater Pollution
4. Water Treatment (sewage treatment plants, etc.)
5. Water Distribution System
6. How Water Is Pumped From A Well
7. Comparison of Public Well Fields and Private Wells
8. The Water Cycle
9. L.I.'s Underground Aquifer System (cross section or other depiction)

********** MODEL CONTEST **********

SIZE: base = 22"x28" maximum (size of a standard poster board)
height = 2 foot maximum
MUST BE THREE DIMENSIONAL.
WORKING MODELS WILL RECEIVE PREFERENCE; INCLUDE INSTRUCTIONS

PRIZES: GRADE CATEGORY - HIGH SCHOOL (10-12)

1st Place.....One day trip to Albany plus $ 300 Cash
2nd Place.....$ 250 Cash
3rd Place.....$ 150 Cash

GRADE CATEGORY - JUNIOR HIGH SCHOOL (7-9)

1st Place.....One week session at Environmental Camp plus $ 100 Cash
2nd Place.....$ 150 Cash
3rd Place.....$ 100 Cash

PRIZES: HANDICAPPED

1st Place.....$ 700 Cash
2nd Place.....$ 500 Cash
3rd Place.....$ 200 Cash

********** POSTER CONTEST **********

SIZE: 22"x28" (standard poster board)

PRIZES: GRADE CATEGORY - HIGH SCHOOL (10-12)

1st Place.....One day trip to Albany plus $ 300 Cash
2nd Place.....$ 200 Cash
3rd Place.....$ 150 Cash

GRADE CATEGORY - JUNIOR HIGH SCHOOL (7-9)

1st Place.....One day oceanographic cruise plus $ 200
2nd Place.....$ 150 Cash
3rd Place.....$ 100 Cash

GRADE CATEGORY - ELEMENTARY (4-6)

1st Place	$ 150 Savings Bond
2nd Place	$ 100 Savings Bond
3rd Place	$ 75 Savings Bond

GRADE CATEGORY - ELEMENTARY (1-3)

1st Place	$ 100 Savings Bond
2nd Place	$ 75 Savings Bond
3rd Place	$ 50 Savings Bond

PRIZES: HANDICAPPED

1st Place	$ 500 Cash
2nd Place	$ 300 Cash
3rd Place	$ 200 Cash

For more information please call (516) 360-6206.

Over 95 schools and handicapped agencies registered for this year's contest which greatly surpassed the 41 participants of the 1989 Contest. Each participating school or agency was again permitted three entries per grade category per school. Furthermore, the 1990 Water Week Poster and Model Contest had been expanded to include both parochial and private schools throughout Long Island.

The winners of the 1990 Water Week Poster Contest were as follows: ELEMENTARY (Grades 1-3): (FIRST) Michael Stanco, Glen Head Elementary School; (SECOND) Richard Benner, Gardiners Avenue School; (THIRD) Marissa Vinciguerra, Saw Mill Road School; ELEMENTARY (GRADES 4-6): (FIRST) Jennifer Pelaez, St. Philip Neri School; (SECOND) Christopher C. Ramsden, River Avenue Elementary School; (THIRD) Lauren Kulick, St. James Elementary School; HONORABLE MENTIONS: Roxane Adler, St. Philip Neri School; Jennifer Strauss, River Avenue Elementary School; JUNIOR HIGH: (FIRST) Amy Volpe, Garden City Middle School; (SECOND) Charles McInnis, Valley Stream Memorial Jr./Sr. High School; (THIRD) Jon Simone, W. Hempstead Middle/Sr. High School; HIGH SCHOOL: (FIRST) Jerry West, Comsewogue High School; (SECOND) Maurice Dyson, Freeport High School; (THIRD) Nora Tapp, Sachem High School North; HONORABLE MENTIONS: James Luning, Mineola High School; Chris Hoffman, East Islip High School; HANDICAPPED AGENCIES: (FIRST) Suffolk Child Developmental Center; (SECOND) Suffolk Child Developmental Center; (THIRD) F.R.E.E. - Level 4C; HONORABLE MENTIONS: Donald, Peter, Anthony, Dena, Nassau Center for the Developmentally Disabled Inc.; Christopher Frank, Patrick Toomey & Ronnie Campagna, Branch Brook Elementary School; F.R.E.E. - Level 4A.

The 1990 Model Contest winners were: JUNIOR HIGH: (FIRST) Brandon Howard, East Islip High School, (SECOND) Jennifer Rhinestine, Lawrence Country Day School; (THIRD) Steven Leshnower,

Hewlett High School; HIGH SCHOOL: (FIRST) Matthew Cole & Timothy Biscay, West Hempstead High School; (SECOND) Stephanie Berkowitz, Kings Park High School; (THIRD) Justin Rosario, West Hempstead Middle/Sr. High School; HANDICAPPED AGENCIES: (FIRST) Nassau Center for the Developmentally Disabled; (SECOND) Suffolk Child Developmental Center.

Water Week EXPO:

In 1989, the Commission sponsored its first "Water Week EXPO" at the State Office Building in Hauppauge. The exhibitors were specialists in groundwater management and protection and their display booths consisted of models, videos, literature, slide shows and other display materials. The EXPO provided a forum for communication between the public and representatives of various government agencies and environmental organizations. Individuals and groups alike were able to learn how their actions can help or hinder the welfare of our sole source aquifer system.

The 1990 Water Week EXPO was also held in the lobby of the State Office Building during Water Week. The Commission encouraged school groups to attend the EXPO.

The Commission is very appreciative of the exhibitors who participated in 1989 and 1990. Any group who did not participate last year and would like more information about the 1991 Poster and Model Contest is encouraged to call the Senate Commission office at (516) 360-6206.

Water Week Conference:

The Commission also participated in the New York State Department of Environmental Conservation's Water Week Conference entitled, "Protecting Our Water Is Everybody's Business," which was held on May 8, 1990, at the Empire State Plaza Concourse in Albany.

EARTH DAY 1990

April 22, 1990 marked the 20th Anniversary of the original Earth Day. More than 20 million people across the United States demonstrated their concern for the environment in 1970. Ten thousand schools, two thousand colleges and universities and millions of other people participated in events such as parades, environmental fairs, protests, tree plantings, and clean-ups in an effort to raise environmental awareness.

Congress was adjourned for the day so that elected officials could participate in events and listen to ideas for environmentally sound programs. As a result of Earth Day 1970, the National Environmental Policy Act, the Clean Air Act and the Clean Water Act became law. The Environmental Protection Agency (EPA) was formed and environmental organizations and concerned citizen groups formed in great numbers around the country.

Twenty years after the first Earth Day, as we enter the 1990s, Long Islanders are faced with the pollution of our marine and freshwater resources, including our sole source aquifer, overdevelopment of our limited capacity island, a serious solid waste crisis, and ambient air quality that does not meet federal standards. One result is that the environmental degradation of Long Island has contributed to the loss of our top ten ranking as one of the most desirable places to live in the country.

On a worldwide level, the planet is facing ozone depletion, species extinction, global warming, loss of tropical and temperate old-growth forests, depletion of fossil fuels and other natural resources, and acid rain. In order to combat these environmental problems, the Earth Day 1990 national organization was formed to generate a renewed environmental movement. The following is a list of objectives the national group focused on as key awareness issues.

- A worldwide ban on chlorofluorocarbons - which destroy the ozone layer and contribute to global warming - to be fully implemented within five years.

- Slowing the rate of global warming through dramatic, sustained reductions in carbon dioxide emissions. This will include higher standards for automobile fuel efficiency and the rapid adoption of a transportation system not powered by fossil fuels.

- The preservation of old-growth forests, in both temperate and tropical areas.

- A ban on packaging that is neither recyclable nor biodegradable and the implementation of strong, effective recycling programs in every community.

- A swift transition to renewable energy resources.

- A comprehensive hazardous waste minimization program, emphasizing source reduction.

- Heightened protection for endangered species and habitats.

- A powerful international agency with authority to safeguard the atmosphere, the oceans and other global commons from international threats.

- A new sense of responsibility for the protection of the planet by individuals, communities and nations.

The 1990s have been declared the "Decade of the Environment." Earth Day 1990 has been designed to have people think globally and act locally. Many of the specific objectives listed previously may take a few years to achieve, however, many events were planned for April 22, 1990 and throughout the entire month. Although these events can be one time events, it is envisioned that participants will continue with their concern for the protection of the environment.

In order to assist the planners of these events, the Water Commission sponsored regional Earth Day meetings with the national group on January 30, 1990. The Water Commission invited local environmental and civic groups, elected government officials, public agencies, teachers and the general public to attend the meeting.

Ron Kamen, the Mid-Atlantic Coordinator for Earth Day 1990, provided literature to be used at the meeting and worked with the Water Commission in developing a registration form used by the attendees to formulate committees and begin a networking system. (See Appendix 1 for literature provided by the national Earth Day 1990 group). Approximately 90 people attended the Earth Day meetings which was held at the State Office Building in Hauppauge.

The meetings were successful in generating much enthusiasm for the environmental movement and Earth Day on Long Island. Pursuant to the meetings many representatives of organizations commented that they were unaware of the large number of groups involved in Earth Day. Therefore, the meeting allowed many groups to meet, share information, and join together in their efforts to plan Earth Day events. By the conclusion of the meetings, a listing of individuals interested in participating on specific regional committees and a list of designated town earth day coordinators were formulated. The minutes of the meeting can be found in Appendix 2.

Many Earth Day events were held around Long Island. See Appendix 3 for a listing of events, by organization, held on or around April 22, 1990. The Commission encourages all municipalities. orgainzations and individuals on Long Island to continue their efforts to preserve our natural resources and improve the quality of our environment.

EARTH DAY 1990 OUTREACH PROGRAMS

EARTH DAY 1990 PLEDGE

Millions of Americans are searching for an effective and dramatic vehicle to demonstrate their concern for the environment. Earth Day 1990 will be encouraging individuals to commit "for the record" by signing a "pledge" challenging citizens to honor the environment when they vote, purchase, consume, and invest.

Earth Day 1990 organizers will be orchestrating mass distribution of the pledges through direct mail and telephone outreach and by means of Earth Day 1990 events and activities. The signed pledges will be distributed by Earth Day 1990 to elected officials and tabulated for national and international media release.

The Earth Day 1990 pledges will demonstrate the sheer numbers of Americans who are willing to commit to a better environment and, importantly, expect their law makers and fellow citizens to do the same.

EARTH DAY 1990 RESOLUTIONS

Senator Albert Gore and Congressman Morris Udall have introduced resolutions before the Senate and House of Representatives that officially recognize April 22, 1990 as Earth Day and call for "a decade of the environment."

Resolutions such as these Congressional initiatives are especially effective in identifying and involving public officials committed to the environment and encouraging pro-environment legislation.

Earth Day 1990 organizers, equipped with draft Earth Day resolution language, will be approaching leaders at every level of state and local government -- from state legislatures to city councils to neighborhood associations. Policymakers and civic leaders will be encouraged to introduce Earth Day resolutions and actively seek the support of their colleagues and their constituencies to assure passage.

P.O. Box AA
Stanford University,
California 94304
415.321.1990
Fax: 421.321.2040
Econet: Earth Day

THE VALDEZ PRINCIPLES

Eearth Day 1990 is a member of a coalition of leading environmental organizations and social investment firms that has drafted "The Valdez Principles" -- a set of ten guidelines for corporate conduct on the environment.

The Valdez Principles address corporate conduct with regard to the release of pollutants, sustainable use of natural resources, reduction and disposal of waste, energy efficiency, conservation and risk reduction to employees and surrounding communities, marketing of safe products and services, damage compensation, disclosure of potential hazards, the need for environmental representatives on corporate boards of directors and the value of annual corporate environmental audits.

In conjunction with the coalition, Earth Day 1990 will be working with corporations, state treasurers, portfolio managers and cities to urge the adoption of the Valdez Principles as an effective gauge for corporate performance and a guideline for socially responsible investing.

EARTH DAY 1990 LESSON PLAN AND HOME SURVEY

Earth Day 1990 has created an innovative lesson plan and homework exercise for primary and secondary students designed to capture the imagination of the student and, importantly, the participation of the parent.

Specifically, primary and secondary school teachers will be provided with an environmental lesson plan focusing on home and community environmental issues. A homework assignment accompanies the lesson comprised of a home environment questionnaire. The questionnaire enlists the participation of students and their parents in an "environmental exploration" of their home and the items in and around it. The family conducts a home tour, addressing questions on family practices and behavior regarding such issues as energy conservation, recycling, home toxics, water conservation, food consumption habits, and transportation. Questions posed on each issue are followed by educational information and practical guidelines for improvement.

EARTH DAY 1990 GLOBAL CITIES PROJECT

The nation's cities are an important force in encouraging individual behavior and setting national policy in such areas as transportation, energy and water use, waste management and recycling.

Earth Day 1990 will be assisting cities undertaking Earth Day 1990 activities that include such projects as ridesharing, recycling, energy and water conservation, hazardous materials and tree planting.

Cities participating in the Global Cities Project will attend Earth Day 1990 project planning seminars held throughout the country and participate in a referral service where cities developing specific environmental programs can draw upon the experience and advice of cities with similar existing programs.

EARTH DAY 1990 ENDORSEMENT ADVERTISEMENTS

Earth Day 1990 will be utilizing media ink and airways to reach and inform the largest possible audiences on the urgent need for environmental action.

National, regional and local print publications will be especially targeted by Earth Day 1990 organizers who will be receiving camera-ready print materials of the Earth Day 1990 logo and a prototype Earth Day 1990 "endorsement" ad. Utilized effectively in political and public interest campaigns, endorsement ads demonstrate the public support of opinion leaders, community activists, concerned citizens and organizations who allow their names to be profiled in the ads.

These endorsement ads, signifying the support of large and diverse constituencies, will be placed by Earth Day supporters on the pages of newspapers and magazines throughout the nation.

The parents actually keep the completed survey -- a "leave behind" sheet for the refrigerator or bulletin board serving as an incentive to make changes in household patterns and products. The students return an overview of the questionnaire findings with noted family plans for changes to their teachers for distribution to Earth Day 1990.

More than a one-time homework assignment, this Earth Day 1990 project is designed to educate and motivate two generations -- the planet's future caretakers and their current role models.

EARTH DAY 1990 COLLEGE ENVIRONMENTAL AUDIT

Thousands of the nation's universities and colleges consume large amounts of energy and resources while generating alarming amounts of solid and toxic waste.

In conjunction with the UCLA Comprehensive Project Group, Earth Day 1990 has launched a environmental audit program to evaluate the environmental practices of colleges and universities across the country.

The project consists of a comprehensive handbook which addresses how college and university management maintain their institutions from an environmental perspective. Campuses are examined regarding administrative policies pertaining to solid, hazardous, radioactive, and medical waste; pesticide use; air and water pollution; transportation and procurement; and energy and water conservation.

These audits will be conducted by Earth Day 1990 student environmental activists. The audit process is less an academic exercise than an student-driven campaign to determine the presence or lack of sound environmental behavior by our institutions of higher learning -- a segment of American business that should be compelled to set a high environmental standard.

VALDEZ PRINCIPLES STATEMENT OF INTENT

With these Principles, The Coalition for Environmentally Responsible Economies, or CERES project of the Social Investment Forum, sets forth broad standards for evaluating activities by corporations that directly or indirectly impact the Earth's biosphere. The CERES Project has created the Valdez Principles to help investors make informed decisions around environmental issues. As representatives of the investment and environmental communities we are asking corporations to join with us by subscribing to these Principles.

Recognizing the complexity of the issues contained in these broad Principles, CERES has attempted to define the Principles as a long-term process rather than a static statement. CERES members hope that signatory companies will work with us on the elaboration of the specific requirements of the Principles. Our intent is to create a voluntary mechanism of corporate self-governance that will maintain business practices consistent with the goals of sustaining our fragile environment for future generations, within a culture that respects all life and honors its interdependence.

We ask for a long term commitment to the process of compliance with these Principles, and an additional commitment of assistance and cooperation in the further development of specific standards derived of these general principles.

VALDEZ PRINCIPLES

Introduction

By adopting these principles, we publicly affirm our belief that corporations and their shareholders have a direct responsibility for the environment. We believe that corporations must conduct their business as responsible stewards of the environment and seek profits only in a manner that leaves the Earth healthy and safe. We believe that corporations must not compromise the ability of future generations to sustain their needs.

P.O. Box AA
Stanford University,
California 94304
415.321.1990
Fax: 421.321.2040
Econet: Earth Day

We recognize this to be a long term commitment to update our practices continually in light of advances in technology and new understandings in health and environmental science. We intend to make consistent, measurable progress in implementing these principles and to apply them wherever we operate throughout the world.

1. Protection of the Biosphere

We will minimize and strive to eliminate the release of any pollutant that may cause environmental damage to air, water, or earth or its inhabitants. We will safeguard habitats in rivers, lakes, wetlands, coastal zones and oceans and will minimize contributing to global warming, depletion of the ozone layer, acid rain or smog.

2. Sustainable Use of Natural Resources

We will make sustainable use of renewable natural resources, such as water, soils and forests. We will conserve nonrenewable natural resources through efficient use and careful planning. We will protect wildlife habitat, open spaces and wilderness, while preserving biodiversity.

3. Reduction and Disposal of Waste

We will minimize the creation of waste, especially hazardous waste, and wherever possible recycle materials. We will dispose of all wastes through safe and responsible methods.

4. Wise Use of Energy

We will make every effort to use environmentally safe and sustainable energy sources to meet our needs. We will invest in improved energy efficiency and conservation in our operations. We will maximize the energy efficiency of products we produce or sell.

5. Risk Reduction

We will minimize the environmental, health and safety risks to our employees and the communities in which we operate by employing safe technologies and operating procedures and by being constantly prepared for emergencies.

6. Marketing of Safe Products and Services

We will sell products or services that minimize adverse environmental impacts and that are safe as consumers commonly use them. We will inform consumers of the environmental impacts of our products or services.

7. Damage Compensation

We will take responsibility for any harm we cause to the environment by making every effort to fully restore the environment and to compensate those persons who are adversely affected.

8. Disclosure

We will disclose to our employees and to the public incidents relating to our operations that cause environmental harm or pose health or safety hazards. We will disclose potential environmental, health or safety hazards posed by our operations, and we will not take any action against employees who report any condition that creates a danger to the environment or poses health and safety hazards.

9. Environmental Directors and Managers

At least one member of the Board of Directors will be a person qualified to represent environmental interests. We will commit management resources to implement these Principles, including the funding of an office of vice president for environmental affairs or an equivalent executive position, reporting directly to the CEO, to monitor and report upon our implementation efforts.

10. Assessment and Annual Audit

We will conduct and make public an annual self-evaluation of our progress in implementing these Principles and in complying with all applicable laws and regulations throughout our worldwide operations. We will work toward the timely creation of independent environmental audit procedures which we will complete annually and make available to the public.

EARTH DAY 1990 GREEN PLEDGE

BECAUSE... our planet today faces severe environmental crises such as global warming, rain forest devastation, growing world population, and water and air pollution...

BECAUSE... the planet's future depends on the commitment of every nation, as well as every individual...

I PLEDGE TO DO MY SHARE IN SAVING THE PLANET
BY LETTING MY CONCERN FOR THE ENVIRONMENT SHAPE HOW I;

ACT: I pledge to do my utmost to recycle, conserve energy, save water, use efficient transportation, and try to adopt a lifestyle as if every day were Earth Day.

PURCHASE: I pledge to buy and use only those products least harmful to the environment. Moreover, I will only do business with corporations that promote global environmental responsibility.

VOTE: I pledge to vote and support those candidates who demonstrate an abiding concern for the environment.

SUPPORT: I pledge to support the passage of local, state and federal laws and international treaties that protect the environment.

Earth Day 1990 -- April 22, 1990

Earth Day 1990 Resolution
(Sample)

Whereas, almost twenty years ago, more than twenty million Americans joined together on Earth Day in a demonstration of concern for the environment, and their collective action resulted in the passage of sweeping new laws to protect our air, water, and land;

Whereas, in the nineteen years since the first Earth Day, despite environmental improvements, the environmental health of the planet is increasingly endangered, threatened by Global Climate Change, Ozone Depletion, Growing World Population, Tropical Deforestation, Ocean Pollution, Toxic Wastes, Desertification, and Nuclear Waste requiring action by all sectors of society;

Whereas, Earth Day 1990 is a national and international call to action for all citizens to join in a global effort to save the planet;

Whereas, Earth Day 1990 activities and events will educate all citizens on the importance of acting in an environmentally sensitive fashion by recycling, conserving energy and water, using efficient transportation, and adopting a more ecologically sound lifestyles;

Whereas, Earth Day 1990 activities and events will educate all citizens on the importance of buying and using only those products least harmful to the environment;

Whereas, Earth Day 1990 activities and events will educate all citizens on the importance of doing business only with those companies that are environmentally sensitive and responsible;

Whereas, Earth Day 1990 activities and events will educate all citizens on the importance of voting for those candidates who demonstrate an abiding concern for the environment;

Whereas, Earth Day 1990 activities and events will educate all citizens on the importance of supporting the passage of legislation that will help protect the environment;

Now, therefore, be it resolved that _____ designate and proclaim April 22, 1990 as Earth Day 1990, and that that day shall be set aside for public activities promoting preservation of the global environment and launching the "Decade of the Environment."

Appendix 2

EARTH DAY MEETING MINUTES

January 30, 1990

I. Introduction: Maryellen McNicholas welcomed everyone on behalf of Senator Caesar Trunzo, Senate Chairman of the New York State Legislative Commission on Water Resource Needs of Long Island. Attendees were asked to introduce themselves, identify the organization they were representing and state the activities they are planning for Earth Day.

II. Ron Kamen, Mid-Atlantic Coordinator for Earth Day 1990 National Group, was introduced as the guest speaker.

Mr. Kamen began by discussing the environmental hazards of 20 years ago; burning rivers, toxic city air, etc. Senator Gaylord Nelson recognized the seriousness of these hazards and established the first Earth Day in 1970. He hired Denis Hayes to coordinate the events nationwide.

On Earth Day 1970, 20 million Americans across the Country came together and jointly participated in tree plantings, fairs, walks, demonstrations and cleanups.

As a result of the first Earth Day, the Clean Air Act and Clean Water Act were passed, as well as OSHA's stringent environmental health regulations. Earth Day 1970 also resulted in the formation of the EPA. Most environmental associations can trace their roots back to Earth Day.

Mr. Kamen remarked that today we are still faced with significant environmental problems that must be addressed and corrected. People all over the world are aware of these problems and consider them a priority issue.

The media has already begun to advertise Earth Day 1990 and will continue to do so. All of the national networks, magazines and newspapers will be featuring environmental specials. The PBS has declared 1990 to be the year of the environment and will run 13 environmental specials. Sesame Street is also having specials on the environment incorporated into their shows. Fortune 500 and Newsweek have featured articles on the environment.

Mr. Kamen emphasized that the best way to capture the media's attention is to show them that the environmental movement is unified and all events are connected on a local, state, country and worldwide basis. Earth Day cannot be individual efforts.

Mr. Kamen continued by noting events planned in New York City and Pittsburgh. In New York City a major environmental fair and

musical event is scheduled to be held possibly in Central Park or Times Square. The fair will host numerous environmental organizations and environmentally sound businesses who will provide literature on and display environmental products, conservation, energy efficiency, alternate fuel sources, etc. There is a possibility that all of the equipment used by performing bands will be powered by photovoltaics. The city is expecting a turnout of 300 thousand people. In addition, there will be a Paul Winter concert and other events at St. John the Divine Cathedral. While in New York City, Mr. Kamen asked that people take notice of the areas paved with glasphalt (recycled glass and asphalt) and suggests that a local program could be initiated if your town is not already doing so.

In Philadelphia, a waterfront ecofair will be held. They are expecting approximately 200 thousand to attend. As an example of what towns and cities can do under the Global Cities Program, Ron explained that in Pittsburgh a flywheel placed on the rail system will save the city 20% on its energy usage. The flywheel actually generates energy back into the system when the rail cars are going downhill. Pittsburgh is expecting 350 thousand people at their environmental fairs. In addition, the City of Newark is currently recycling 41% of it's garbage by weight and Recycling Rangers in schools are aiming to increase this to 50% by Earth Day.

Mr. Kamen noted that events are occurring across New York State and to date 120 countries are participating in Earth Day 1990 worldwide. The 1990's will be known as the "Decade of the Environment". The business community will be marketing "Green" in their stores by using marketing techniques such as selling energy efficient products.

Four National Programs

Earth Day 1990 is promoting four outreach programs:

1) Lesson Plans for Grades K-12: The New York State Education Department will provide a copy of the K-12 lesson plans developed by Earth Day 1990 to every school building. Committees are being formed to distribute and promote K-12 activities as well as other activities for children.

2) Campus Audits: Since educational institutions are major generators of waste and major consumers of energy, they can be models for programs. Actions should be taken to reduce waste, recycle and conserve resources. Locally, S.U.N.Y. at Stony Brook estimates that it will save $300 thousand in carting costs from its newly adopted recycling program.

3) Global Cities: The objective is to establish a networking system between municipalities, cities and states and to institute long range environmental programs.

4) International Pledge: The pledge drive requests the following from individuals:
   a) changing your personal actions and way of thinking to become environmentally conscious.
   b) making responsible purchases of environmentally sound products from reputable companies.
   c) supporting environmental legislation.
   d) voting for environmentally oriented political candidates.

The International Pledge can be distributed in several ways. As an example, in Binghamton they are circulating the International Pledge by using door knob circulars, and in Newark they are introducing the pledge through mailings.

Businesses can participate in the pledge program by informing their employees and supplying the pledge agreement to consumers with their products. Churches can include a pledge in their church bulletins and announce it during the sermon.

III. Suggestions for Long Island

Firstly, and perhaps most importantly, a single central referral service must be established to keep track of all events being organized on Long Island. The referral service will direct people to local events or events of most interest to that individual.

Sophie Morris of the New York State Department of Environmental Conservation has already begun a calendar of events (which was provided at the meeting) and requested that organizations provide her with details of their events as soon as possible. We urge all groups to register their event with Sophie. Her telephone number is (516) 751-7304.

Secondly, all organizations must project to the media that they are part of a coordinated environmental movement in order to gain publicity for the Earth Day cause rather than asking the media to cover events individually.

If someone is willing to donate a phone and office space, Nora Bredes volunteered to act as the public relations liaison between the Earth Day movement and the media.

Thirdly, Long Islanders must reach out to businesses and inform them of the Valdez Principles which evaluate corporate conduct.

The people must explain the environmental movement and encourage environmentally sound marketing strategies and business practices.

Attendees were asked to leave their name, phone number, organization and sign up for one of the national group's programs (K-12, Campus Audits, Global Cities, or International Pledge). It was also requested that all Earth Day materials be printed on recycled paper. Carl Ross provided a telephone number (800-323-2811) of a recycled paper supplier in Oregon with competitive prices.

Appendix 3

EARTH DAY EVENTS

Town of Huntington Conservation Board
Joy Squires, Janet Dietrich and Margo Myles Co-Chairs
Earth Day Information # 351-3078
March 5th - Town STOP Day
March 24 or 25th - March for Parks - Children pledge for National Parks.
April 21st - Technical Symposium "The State of Huntington's Environment" 9:15-4:30 Town Hall
April 22 - Earth Day Celebration 1:00 to 5:00 Huntington Elementary School, Earth Song Performance as well as other Huntington performing artists. Environmental displays by at least 20 organizations.
May - Town "Bag It" Day - beaches and parks clean-up.
Earth Day information will be printed in the New York State Association of Conservation Commissions Newsletter.

Girl Scouts
Contact: Shirley Siegal at 466-0427
Patch Program for Scouts to earn.

Nassau County Department of Parks
Contact: Tony Panzarella at 785-2802
Earth Day Program at Eisenhower Park - "Greening of Long Island" 10-4pm - environmental exhibits, environmental games for children, slide presentations, childrens activities, give away of 10,000 seedling trees, children's activities, food and entertainment.

Town of Islip
Contact: Louise A. Fabrizio at 224-5640
April 22nd - South Shore Nature Center, East Islip - Tree plantings, seminars and nature walks. Activities on composting and solid waste reduction.

Earth Island Center and Huntington Environmental Forum
(Earth First)
Contact: Van Howell at 424-6499
March 23 - Harriet Gumbs of the Shinnecock Reservation on the Long Island of her ancestors' recent history and environment.

April 20 - Talk by Paul Mankiewicz, Director, Gaia Institute of Cathedral of St. John the Divine and William Kinsinger, Designer-Consultant-Author on Ecological Economics, New York City planetary overview of the environmental system.
April 22 and 23 - Earth Day Weekend - Sunrise to Sunset both days - Vigil to save Wilburs Woods at William Floyd Parkway North of the Long Island Expressway.

Hofstra University
Contact: Russell Moore
Research on Long Island's economic development and the environmental impacts.
April 20 and 21 - Speakers forum on the environment.

New York State Department of Parks
Contact: Mike Venuti at 265-1054
April 22 - Caleb State Park
7-8:30am - early bird watch
9-10:30am - program on forest stewardship in cooperation with DEC
11-12:30pm - bugs and butterflies - ages 6 and up
1-2:30pm - reptiles and amphibians - family activities
3-4:30pm - springs and streams - family activities
6-7:30pm - sounds of spring
8-10:00pm - "Owl Prowl"

New York State Department of Environmental Conservation
Contact: Sophie Morris at 751-7304
Display in the State Office Building in Hauppauge. Sophie will keep a list of planned activities. DEC will participate in various activities.

Keep Islip Clean (KIC)
Contact: Elizabeth Boyd at 224-2627
April 4th - Conference - Farmingdale Campus; community clean-up.
April 22 - Brentwood - Tree planting ceremony.

BOCES III
Contact: Edward Zero at 360-3652
Poster contest, park and/or beach clean-up, help distribute K-12 lesson plans, Earth Day games.

Babylon CAC
Contact: Carole Wilder at 422-7640
Tree planting, May STOP Day,
Tentative: environmental reference book and photo contest.

Village of Babylon Schools
Contact: Stanis Beck at 587-4622
Parade, children's art and science projects exhibit,
Suffolk County PTA - environmental speakers list for teachers

Long Island Earth Day 1990 - South Country Peace Group
Contact: Michelle Santantonio at 286-2883 or 286-1803 or Elsa Ford at 273-4074
April 22 - Earth Day Fesitval at Southaven County Park - Children's activities, speakers, nature hikes, etc.

Fort Salonga School Environmental Earth Day Committee
Contact: Yvonne Langer at 754-2244
Initiating recycling in the school and tree planting.

Long Island Council of Churches
Sermons on Earth Day

Bayport - Bellport Schools
Children's activities

South Ocean Avenue School
Contact: Carol Durkin at 758-1030
Week long program - Earth Day T-Shirt Contest, lesson plans, speaker presentation.

Seneca Junior High School
Contact: Tom Durkin at 758-1030
Two day program, speakers, films, lesson plans.

Suffolk County
Contact: Dave Newton at 232-5920
Recycling Exhibit and speaker presentations in State Office Building.

Environmental Centers of Smithtown/Setauket
Contact: Amy Freiman at 724-7721(home), 979-6344(work)
Information published in newsletter.

Group for the South Fork
Contact: Kevin McDonald at 537-1400

Hoyt Farm Park Nature Preserve
Contact: Robert Fiffen at 543-7804
Tree planting ceremony, speakers on the rain forest, children's activities: crafts, puppet show, story telling all geared for family activities.

T.R. Roosevelt Sanctuary (National Audubon Society)
Contact: Bill Kolodnycki at 922-3200
Five Hawk & Owl programs with Huntington Audubon Society in five libraries.

Long Island Monthly
Contact: Tom Clavin at 725-3840
April Issue - separate environmental section inspired by Earth Day - Coastal erosion is the main focus.

New York State Legislative Commission on
Water Resource Needs of Long Island
Contact: Maryellen McNicholas at 360-6206
Hosted coordinating meeting for Earth Day plans on Long Island. Display in lobby of State Office Building, Hauppauge and participation in various speaking engagements, presentations and exhibits.

Nixon, Hargrave, Devans & Doyle and
Twomey, Latham, Shea & Kelley
Contact: Michael White at 222-1236
April 20 - Earth Day Symposium - Trying to achieve balanced growth; panel discussions on the legal issues - Touro College.

National Park Service
Contact: Herb Machol at 922-2100
April 22 - Family Conservation Day - Exhibits, lectures, presentations, re-enactment of Theodore Roosevelt in honor of his contributions, tour of historical homesite.
March 25 - March for parks at Roosevelt Park, Sagamore Hill.

Accompsett Elementary School
Contact: Elizabeth Venuti at 724-6665 (evenings)
March 14 - from 1:00 to 3:30 - Earth Day Fair.

Village of Head of the Harbor
Environmental Conservation Board
Contact: Constance Nostrand at 584-5831
April 20 - Brian Culhane, of the New York State Legislative Commission On Water Resource Needs of Long Island made a presentation on Long Island's Groundwater Resource.

Concerned Citizens Of Montauk
Contact: Carol Morrison at 668-5269; Richard Johnson at 668-5765
April 22 - noon to 3:00 pm dedication and picnic rally at Montauk Point. The day will begin with the picnic followed by a talk by Richard Amper, Executive Director of the Long Island Pine Barrens Society. The talks will be followed by nature walks given by naturalists and the Group for the South Fork. One of the walks will concentrate on the point's erosion control program.

Smithtown E. High School
Contact: Denise Pisacone at 361-9645
April 20 & 23 - speakers and exhibits.

North Ridge Elementary School (Grades K-12) Commack
Contact: Rachael Weiner at 368-7159
Tree planting, science experiment, lesson plans, implementing recycling of household batteries and plastic.

S.U.N.Y. at Old Westbury
Contact: Lorraine Goldsmith at 876-2758
April 22 - exhibits from 2-6 pm.
April 23 - speakers from 10-8:30 pm.

Hauppauge High School and Great South Bay Audobon Society
Contact: Ken Ward at 265-3630
April 20 - Earth Day assembly presentations on "Spaceship Earth" 1-2:15pm

Suffolk County
Contact: John Turner at 924-6767
A program to highlight Suffolk County's Parks System, "An Embrace of Open Space" including a series of nature walks, outdoor hikes and special events.

Long Island Progressive Coalition
Contact: Warren Goldstein at 691-3689
Business outreach; individual pledge campaign; environmental leaders network; computerized bulletin board of Earth Day Events.

Open Space Council
Contact: Karen Blumer at 286-0097
Will write a series of white papers concentrating on coastal problems.

Long Island Heritage 2000 Alliance
Contact: Jeff Fullmer at 360-0484
Announcement of lobbying plans for new EQBA to be coordinated with Earth Day.

1989 Commission Field Investigations

A strong educational component has been evident in the Commission's work since its creation in 1980. Through conferences, public hearings, speaking engagements, Commission-sponsored outings, and the Long Island Water Resources Curriculum (to name a few), we have attempted to reach out to the broad diversity of New York State residents in an effort to educate and heighten the awareness of the public about water quality and quantity issues and, moreover, the importance of protecting this precious groundwater resource.

In 1989, the Commission arranged and sponsored its widest array of on-site experiences for Commission legislators and the Long Island Delegation. Initially offering fifteen trips to choose from, by consensus, five trips were offered. These trips provided attendees with a first-hand look at some of the efforts being undertaken to protect and preserve the environmental integrity of Long Island.

Encompassing Nassau and Suffolk Counties, discussions and presentations regarding solid waste management, marine water quality, sewage treatment processes, wetland protection, watershed preservation, and innovative uses of computers to assist in groundwater protection, were presented. The following list contains a brief outline of each trip.

TUES. AUG. 29

LONG ISLAND RECYCLERS

A three-hour tour of private and municipal recycling and composting companies on Long Island. This tour was conducted jointly with Suffolk County's Recycling Coordination Office.

FRI. SEPT. 8

BOAT TRIP WITH STONY BROOK MARINE SCIENCES RESEARCH CENTER (SBMSRC)

A three-hour cruise on SBMSRC's "on-rust" investigated the current research of our marine waters.

WED. SEPT. 13

NASSAU COUNTY DEPARTMENT OF PUBLIC WORK's GROUNDWATER COMPUTER SYSTEM AND CEDAR CREEK SEWAGE TREATMENT PLANT

An hour demonstration of Nassau County's groundwater model and associated projects. Also a tour of the Cedar Creek Sewage Treatment Plant.

WED. SEPT. 20

EASTERN PINE BARRENS

A three-hour tour exploring the status of Long Island's last remaining large open area and its potential as a major source of drinking water.

WED. SEPT. 27

APPLIED ECOLOGY AT SEATUCK RESEARCH LABORATORY

A two-hour tour of applied ecology techniques developed by the Seatuck Research Programs, including tidal wetland and wildlife management.

SECTION VII
WATER COMMISSION LEGISLATIVE PROGRAM

COMMISSION SPONSORED LEGISLATION THAT HAS BECOME LAW
(1981-1990)

Bill Description	Bill #	Sponsored	Status
1. Long Island Landfill Law	S.5467 A.6800-A	'81-83	Enacted Laws of 1983 Chapter 299

Prohibits new solid waste landfills in "deep flow recharge areas" and phases out existing ones by 1990. Placed restrictions on the design and operation of landfills located outside deep flow recharge areas.

2. Prohibits Land Burial of Certain Hazardous Wastes	S.5890-A A.4853-A	'81-84	Enacted Laws of 1984, Chapter 817

Permits the Department of Environmental Conservation Commissioner to restrict by rule or regulations, the land burial of certain organic and inorganic hazardous wastes.

3. Sole Source Aquifer Protection	S.2831 A.3709	'82-87	Enacted Laws of 1987, Chapter 628

Designates nine Special Groundwater Protection Areas in Nassau Suffolk Counties. Creates a planning process in an effort to prepare and implement groundwater watershed protection plans.

4. Restrictions on JDA Loans	S.3339-A A.4141-A	'82-83	Enacted Laws of 1983 Chapter 807

Forbids the Job Development Authority from loaning funds for facilities which do not properly dispose of hazardous wastes. An applicant must demonstrate that project has valid permits for treatment of hazardous wastes or the funds will be used to eliminate any violation.

5. Water Quality Treatment Districts	S.4695-B A.6254-B	'83-84	Enacted Laws of 1984 Chapter 622

Authorizes counties and towns to create, by resolution or petition, new districts known as Water Quality Treatment Districts, in areas not presently being served by a public water supplier. The district would test water quality, install and maintain water treatment systems when necessary, and advise well owners how to
reduce contamination.

Bill Description	Bill #	Sponsored	Status
6. State Certification-Environmental Laboratories	S. 4701-C A. 6259-C	'83	Enacted Laws of 1983, Chapter 614

Establishes a State Department of Health Certification Program for environmental laboratories. All sampling required pursuant to the Environmental Conservation Law for water, wastewater (SPDES Program), sediments, solid waste and air must be performed by a New York State certified laboratory.

7. Water Supplier Notification of SPDES Permit Application	S. 4699-B A. 6257-C	'83	Enacted Laws of 1983, Chapter 663

Requires that any notification of SPDES permit application or renewals published in the Environmental Notice Bulletin include the name and address of water suppliers in sole source aquifers having a service area within a three mile radius of where the facility is located.

8. Water Supplier Notification of SPDES Permit Violation	S. 4698-B A. 6256-B	'83	Enacted Laws of 1983 Chapter 662

Requires the Department of Environmental Conservation to notify water suppliers in sole source aquifers having a service area within a three mile radius of a facility's discharge when the SPDES permit is being violated.

9. Designate Primary Groundwater Recharge Areas	S. 347-C A. 416-C	'83	Enacted Laws of 1983, Chapter 951

Establishes a procedure for the designation of primary groundwater recharge areas within sole source aquifers. The law adopts Hydrogeologic Zones I-V as specified in the Long Island Comprehensive Waste Treatment Plan of 1978 as primary groundwater recharge areas for Nassau and Suffolk Counties. DEC is directed to promulgate regulations to restrict or prohibit incompatible uses in such areas in order to protect water quality.

Bill Description	Bill #	Sponsored	Status
10. Lead Solder Ban for Water Pipes	S. 1792-A A. 3640-A	'83-85	Enacted Laws of 1985, Chapter 190

Limits the lead content in solder used in plumbing for potable water supply systems to not more than one-half of one percent.

11. L.I. Ashfill Siting and Board	S. 1544-D A. 1108-D	'84-85	Enacted Laws of 1985, Chapter 358

Provides for state assistance in the siting of a facility to receive ash residue from resource recovery operations on Long Island. Created the Long Island Regional Ashfill Board.

12. Water Supply Emergency Plan	S. 2828-B A. 3712	'84-87	Enacted Laws of 1987, Chapter 590

Requires water suppliers to develop and implement water supply emergency plans and revise them every five years. Such a plan will assist in preventing emergencies and serve as a guide in the event of a water supply emergency.

13. Reward for Information Regarding Hazardous Waste Violators	S. 9596 A. 9840	'84	Enacted Laws of 1984, Chapter 937

Authorizes rewards up to $25,000 for aid in apprehension and conviction of hazardous waste violators.

14. Well Permit Program for L.I.	S. 6156 A. 7618	'85-86	Enacted Laws of 1986, Chapter 773

Establishes a moratorium on new wells in the Lloyd Aquifer except for coastal communities. The law requires that all new well permits be renewed every ten years, and all existing permits within overstressed segments of the aquifer be reopened and reevaluated. The exemption for agricultural wells is removed.

15. Definition of Sole Source Aquifer	S. 7245-B A. 8698-B	'86	Enacted Laws of 1986, Chapter 305

Defines "sole source aquifer" within the Environmental Conservation Law, since several sections only apply to sole source aquifers.

Bill Description	Bill #	Sponsored	Status
16. Bottled Water Testing	S. 2468 A. 3315	'86-87	Enacted Laws of 1987, Chapter 193

Requires that organic, bacteriological, and chemical testing of bottled water sold in New York be equal to or stricter than requirements for public water supplies.

17. Water Conserving Fixtures	S. 2832 A. 3708	'85-87	Enacted Laws of 1987, Chapter 558

Plumbing fixtures are required to meet water performance standards. Fountains as well as sink and lavatory faucets in public buildings shall be self-closing.

18. Suffolk County Water Protection Program	S. 9133 A. 11925	'88	Enacted Laws of 1988, Chapter 674

Enables Suffolk County to extend its imposition of an additional one-quarter of one percent sales tax to be utilized for groundwater preservation and related initiatives.

19. Beaverdam Creek	S. 7728-A A. 10000-A	'88	Enacted Laws of 1988, Chapter 270

Provides for a moratorium on development within the area of Beaverdam Creek while the New York Department of Environmental Conservation (DEC) studies the river corridor for possible inclusion to the Wild, Scenic and Recreational Rivers System.

20. Brookhaven Resource Recovery Agency Act	S. 8951-B A. 11530-B	'88	Enacted Laws of 1988, Chapter 667

Creates the Town of Brookhaven Resource Recovery Agency to facilitate the management of solid waste.

21. Water Treatment Unit Labeling	S. 3286-C A. 4520-C	'88	Enacted Laws of 1988, Chapter 660

Regulates the sale of point-of-use water treatment units. Requires labeling to substantiate performance claims and provides pertinent operation and maintenance information to the consumer to insure safe and proper use.

Bill Description	Bill #	Sponsored	Status
22. Water Supply Reporting	S. 7490-A A. 7830-C	'87-88	Enacted Laws of 1988 Chapter 259

Requires water suppliers to provide consumers with information to the quality of water at the point of distribution. Information regarding raw water quality is to be provided to consumers upon request.

23. Water Emergency Plan	S. 7005-A A. 8548-A	'88	Enacted Laws of 1988, Chapter 83

Permits water suppliers in New York City to prepare emergency plan(s) jointly and permits sensitive information to be withheld from public disclosure.

24. Mandatory Water Metering in Nassau & Suffolk	S. 5948-B A. 7634-B	'87-88	Enacted Laws of 1988, Chapter 369

Requires public water suppliers to meter service to its customers within two years.

25. Transfer of Development rights	S. 1417 A. 2090	'86-'89	Enacted Laws of 1989 Chapter 40

Provides the means for localities to provide for transfer of development rights within a land use management program in order to protect natural, scenic, recreational, and agricultural qualities of open lands.

26. Conservation at State Office Bldgs.	S. 1388 A. 3514	'87-89	Enacted Laws of 1989, Chapter 399

Directs the Office of General Services and the Trustees of the State University to conduct a survey of water use and conservation measures and report such findings with an implementation plan to the Governor and the Legislature.

27. Public Notification	S. 2351 A. 3542	'89	Enacted Laws of 1989, Chapter 682

Requires the Department of Health to delineate specific procedures for public notification of health hazards associated with public water supply emergencies. Such procedures shall require the water supplier to notify the municipality and the local police department.

28. Sewage Treatment Plant Revolving	S. 2995 A. 3967	'88-89	Enacted Laws of 1989, Chapter 565

Establishes a State Water Pollution Control Fund to provide for improvement and construction of municipally-owned sewage treatment projects through low interest loans.

Bill Description	Bill #	Sponsored	Status
29. Tidal Wetland Amendments	S.2097 A.4811	'88-89	Enacted Laws of 1989, Chapter 666

Implements a number of recommendations of the Tidal Wetlands Advisory Committee to improve administration and enforcement of the Tidal Wetlands Act.

30. S.C. Water Extension Program	S.3537 A.5623	'88-89	Enacted Laws of 1989, Chapter 306

Permits Suffolk County and other municipalities to appropriate money to be Suffolk County Water Authority to defray project costs associated with the extension of water mains within the County to areas of documented contamination.

31. Clean Ocean Fund	S.5497 A.8539	'88-89	Enacted Laws of 1989 Chapter 564

Establishes a dedicated fund for sewage sludge management in order to receive and disburse monies in accordance with Federal Ocean Dumping Ban Act of 1988.

32. Pt. Washington Water District	S.6177 A.8485	'89	Enacted Laws of 1989, Chapter 533

Authorizes Nassau County to discontinue use of certain land in order for Port Washington Water District to construct, operate and maintain a water treatment facility.

33. Water Treatment Unit Labeling, Testing, and Advertising	S.2563 A.3765	'90	Enacted Laws of 1990, Chapter 573

Technical amendments clarifying responsibilities of manufacturers of home water treatment units.

34. EQBA Land Sales	S.5572 A.8398	'88-'90	Enacted Laws of 1990, Chapter 71

Prohibits the sale or disposal of lands acquired through the 1986 Environmental Quality Bond Act without an Act of the New York State Legislature and such lands to be replaced.

35. EQBA Preserve Trust	S.5571 A.8399	'89-90	Enacted Laws of 1990, Chapter 81

To clarify that land acquired by the State for environmental or historical preservation under the 1986 Environmental Quality Bond Act can be dedicated to the State Nature and Historical Trust.

36. Environmental Impact Statements for SGPAs	S.7947 A.9802	'89-90	Enacted Laws of 1990, Chapter 219

An EIS filed for proposed actions within SGPAs, which may have a significant effect on the environment, would have to describe the action's consistency with the Special Groundwater Protection Area Management Plan.

37. Long Island Pine Barrens Maritime Reserve Act	S.8961 A.12030	'90	Enacted Laws of 1990, Chapter 814

Designates the Pine Barrens-Peconic Bay System in Suffolk County as a region of significant statewide importance and creates a seventeen member council to prepare a comprehensive management plan for the region.

38. Western Nassau County Water Authority	S.8798-B A.11741-B	'90	Enacted Laws of 1990. Chapter 686

Creates the Western Nassau County Water Authority in an area presently served by a private, corporate water supplier. The authority, to be governed by a five person board of directors, would be responsible for investigating, analyzing, and evaluating options for water distribution to the customers served.

39. Oil Spill Prevention/ Contingency Act	S.6733 A.9079-D	'90	Enacted Laws of 1990, Chapter 898

Sets guidelines and standards for the prevention of and response to petroleum spills in the Marine and Coastal District. Directs the Commissioner of the DEC to set minimum conditions on the movement of tanks; requires containment booms to be deployed around a tanker or facility transferring petroleum; requires communication/command centers for the Marine and Coastal District.

New York/New Jersey Bi-State Committee on Marine Resources	S.7643 A.10464	'90	Enacted Laws of 1990, Chapter 790

Establishes a New York/New Jersey Bi-state Marine Resources Committee to make specific recommendations concerning the maintenance, protection, and restoration of such marine resources in the New York Bight and the Hudson-Raritan Estuary.

1990 LEGISLATIVE PROGRAM

Drinking Water Supply Management

S.1154/A.3795	Water Supply Tax Credit
S.1737/A.2699	Tax Exemption for Bottled Water
S.2561/A.3767	Certificate of Adequate Supply
S.2563/A.3765	Water Treatment Units
S.5563/A.3794	Ice Cube Quality
S.5564/A.8285	Water Well Testing
S.5571/A.8401	Asbestos Piping

Water Conservation

S. 558/A.4070	Irrigation Conservation
S.2560/A.3776	Conservation at Sewage Treatment Plants
S.2661/A.3934	Water Conservation Tax Credit
S.3763/A.4035	Leak Detection Program
S.4687/A.8073	Waterless Toilets
S.8584/A.10691	Water Coservation Retrofit Program

Comprehensive Groundwater & Watershed Management

S.3459/A.9581	Local Enforcement
S.4109/A.6519	Safe Drinking Water Act
S.5565/A.8283	SGPA Downzoning
S.5566/A.8284	CEA Downzoning
S.5567/A.8280	SGPA SPDES moratorium
S.5569/A.8279	Recharge Basins
S.5570/A.8399	EQBA Preserve
S.5572/A.8398	EQBA Land Sales
S.7947/A.9802	SEQR SGPA Findings
S.8194/A.11577	1990 Bond Act

Surface Water Protection

S.1736/A.2680	Marine District Fund
S.1922/A.2981	CSO - Combined Sewage Overflow Abatement
S.3432/A.5369	Sewage Treatment Plant Generators
S.6733/A.9079	Oil Spill Contingency Plan

Wetlands Protection & Enhancement

S.5568/A.8281	L.I. Stream Management

Water Supply Tax Credit
(Senate 1154, Assembly 3795)

Title of Bill: An Act to amend the Tax Law, in relation to establishing a pure water supply tax credit for homeowners whose well water has become contaminated.

Purpose or General Idea of Bill: To provide to homeowners who have well water that is contaminated above existing drinking water standards or guidelines, a New York State Income Tax Credit of 55 percent of the cost incurred in securing a potable water supply. The tax credit would be available to homeowners who install a water purification unit, drill a new private well, redrill an existing one or connect to a public water supply.

Summary of Specific Provisions: Homeowners would be able to obtain a State Income Tax Credit if their private wells are rendered nonpotable due to contamination above existing drinking water standards or guidelines. The amount of the credit will be 55 percent of the cost for the method chosen with a maximum figure of $750 for the installation of a water purification unit, $1,250 for drilling a new well or redrilling an existing one, and $1,800 for connecting to a public water supply. Homeowners receiving financial assistance under Article 12 of the Navigation Law would not be able to utilize the tax credit. The credit may be carried over to subsequent tax years until it is exhausted.

Effects of Present Law Which This Bill Would Alter: Section 606 of the Tax Law is amended by adding a new Subsection (m). The existing lettered Subsection (m) is relettered (n).

Justification: Many homeowners in New York State are finding the quality of the water in their private wells has been, and is being, jeopardized by land use activities beyond their control. The frequency of these private well contamination incidents has been increasing over the past few years in New York State. If the contaminant is a petroleum product, individuals can receive financial assistance from New York State through Article 12 of the Navigation Law. Homeowners who are impacted by any other constituent, however, are left with little recourse but to expend a substantial amount of money in order to secure a potable water supply. It is the intent of this legislation to provide a way in which the financial burden associated with obtaining a potable water supply can be mitigated. This will complement and expand upon the assistance provided pursuant to Article 12 of the Navigation Law.

Fiscal Implications for State and Local Governments: There are no fiscal implications to local governments. It is estimated from data supplied by the New York State Health Department and local health departments that the "Pure Water Supply" Tax Credit would result in a maximum or worse case tax diminishment to the State of about $3,394,700 annually. Unfortunately, it is impossible, from the material obtained from the State Health Department, to develop a more likely moderate fiscal impact since the sampling is not done in an unbiased, objective way; rather it is done by targeting "hot spot" areas throughout the State where private well contamination is more frequent.

Effective Date: This law shall take effect immediately and shall apply to taxable years beginning after December 31, 1990.

TAX EXEMPTION FOR BOTTLED WATER
(Senate 1737, Assembly 2699)

Title of Bill: An Act to amend the Tax Law, in relation to exempting bottled non-carbonated water from sales tax and use tax.

Purpose or General Idea of Bill: To exempt bottled water used for human consumption from sales tax.

Summary of Specific Provisions: To add bottled non-carbonated water to those items, such as food, beverages and health supplements, that are not subject to state sales tax.

Effects of Present Law Which This Bill Would Alter: This bill amends the tax law by amending Paragraph one of Subdivision (a) of Section 1115.

Justification: Presently, water delivered to consumers through mains is not subject to tax. Therefore, bottled water, which is used primarily for drinking purposes, should also be exempt. In some areas of the state, residents have been forced to buy bottled water because their private well water has been found to be contaminated. In such emergencies, bottled water is often the only alternative supply. Drinking water is a necessity, as is food, and should not be taxed.

Fiscal Implications for State and Local Governments: A small reduction in sales tax.

Effective Date: The first day of September next succeeding the date on which it shall have become a law.

CERTIFICATE OF ADEQUATE SUPPLY
(Senate 2561, Assembly 3767)

Title of Bill: An Act to amend the Environmental Conservation Law, in relation to sole source aquifers contained within counties having a population of one million or more, not wholly contained within a city.

Purpose or General Idea of Bill: Development projects which may generate significant water supply needs are often undertaken without the notification or approval of the local water purveyor. This can create confusion or setbacks for water supply planning and management, and in worst case situations, lead to the overpumping of water in areas where supply may be limited. This may promote saltwater intrusion or cause contaminants to be drawn deeper into aquifers. The bill requires that the initial step in the development process begin by notifying the local public water purveyor and obtaining a certificate of adequate supply.

Summary of Specific Provisions: The bill applies to the new construction of multiple dwellings, commercial or industrial buildings and any alterations and expansions which shall warrant a significant increase in demand for water in sole source aquifers contained within counties having a population of one million or more. Prior to the commencement of construction and the granting of a building permit, the builder must obtain a certificate of adequate water supply from the local public water purveyor. The builder must submit appropriate information as specified in the bill with which the purveyor can make an accurate judgement. The public water supplier shall reply to the builder within 30 days of receipt of the maximum estimated demand as submitted by the builder.

Effects of Present Law Which This Bill Would Alter: This bill amends the Environmental Conservation Law by adding a new Section 15-1530.

Justification: Water purveyors must be kept informed and verify their ability to meet the needs of new customers so that excessive demand does not adversely impact the local water supply system and appropriate water supply planning can occur.

Fiscal Implications for State and Local Governments: None

Effective Date: On the one hundred eigthieth day after it shall become law

POINT-OF-USE WATER TREATMENT UNITS
(Senate 2563, Assembly 3765)

Title of Bill: An Act to amend the General Business Law, in relation to water treatment units and repealing certain provisions of such law relating thereto.

Purpose or General Idea of Bill: To make improvements to existing law regarding the sale of water treatment units, including the addition of stricter enforcement provisions and descriptions of various sales practices which would be considered false and deceptive.

Summary of Specific Provisions: This bill would create a new Article in the General Business Law, dedicated solely to water treatment units. Highlights by section include the following:

Section 305-g - Makes a number of technical improvements in definitions now in statute, and adds a definition for "qualified laboratory".

Section 350-h - Describes a series of advertising and sales practices which would be considered false and deceptive. These practices would be prohibited.

Section 350-i - Makes a number of improvements in current law which will provide consumers with more complete and useful information on water treatment units which they are considering purchasing. "Performance data sheets", presently require to be provided to consumers before a unit is purchased, would have to contain more complete information. For example, recommended operational procedures and test data information would be expanded. In addition, present penalties for violators are retained and a fine of up to $500 per violation is added.

Effects of Present Law Which This Bill Would Alter: Would repeal Sections 349-c, 349-d and 349-e of the General Business Law. It would than add a new Article 22-b, entitled "Water Treatment Units" to the General Business Law.

Justification: There are a number of legitimate needs and uses for water treatment units. However, many people are buying units even if they don't need one because of scare tactics, false claims and misleading advertising used by some salespeople.

Consumers should always compare the capabilities of any unit they are considering buying with their actual water treatment needs. This bill will help ensure that consumers receive complete, accurate and pertinent information about any unit which they are considering purchasing before the sale is consummated.

POINT-OF-USE WATER TREATMENT UNITS
(Senate 2563, Assembly 3765)

Title of Bill: An Act to amend the General Business Law, in relation to water treatment units and repealing certain provisions of such law relating thereto.

Purpose or General Idea of Bill: To make improvements to existing law regarding the sale of water treatment units, including the addition of stricter enforcement provisions and descriptions of various sales practices which would be considered false and deceptive.

Summary of Specific Provisions: This bill would create a new Article in the General Business Law, dedicated solely to water treatment units. Highlights by section include the following:

Section 305-g - Makes a number of technical improvements in definitions now in statute, and adds a definition for "qualified laboratory".

Section 350-h - Describes a series of advertising and sales practices which would be considered false and deceptive. These practices would be prohibited.

Section 350-i - Makes a number of improvements in current law which will provide consumers with more complete and useful information on water treatment units which they are considering purchasing. "Performance data sheets", presently require to be provided to consumers before a unit is purchased, would have to contain more complete information. For example, recommended operational procedures and test data information would be expanded. In addition, present penalties for violators are retained and a fine of up to $500 per violation is added.

Effects of Present Law Which This Bill Would Alter: Would repeal Sections 349-c, 349-d and 349-e of the General Business Law. It would than add a new Article 22-b, entitled "Water Treatment Units" to the General Business Law.

Justification: There are a number of legitimate needs and uses for water treatment units. However, many people are buying units even if they don't need one because of scare tactics, false claims and misleading advertising used by some salespeople.

Consumers should always compare the capabilities of any unit they are considering buying with their actual water treatment needs. This bill will help ensure that consumers receive complete, accurate and pertinent information about any unit which they are considering purchasing before the sale is consummated.

Fiscal Implications for State and Local Governments: None

Effective Date: January 1, 1991, and shall apply to water treatment units manufactured, and subsequently sold, initially rented, or initially leased on or after such date.

ICE CUBE QUALITY
(Senate 5563, Assembly 3794)

Title of Bill: An Act to amend the public health law, in relation to regulating the manufacture and sale of packaged ice.

Purpose or General Idea of Bill: This bill's purpose is to ensure that water used in the making of ice for human consumption meets drinking water standards.

Summary of Specific Provisions: The bill would amend Part 5 of the New York State Sanitary Code to require that ice sold in New York State uses a water supply that meets the same health standards as required for drinking water.

Effects of Present Law Which This Bill Would Alter: Subdivision 5 of Section 225 of the Public Health Law is amended by adding a new Section (v).

Justification: Present law does not require that ice sold or delivered for human consumption meet any purity standards. This bill would ensure that the water used for the manufacture of ice is safe and free of excessive levels of contaminants.

Fiscal Implications for State and Local Governments: None

Effective Date: This act shall take effect 180 days after it shall have become a law.

WATER WELL TESTING
(S.5564/A.8285)

Title of Bill: An Act to amend the General Business Law, in relato testing requirements of all one or two family residential structures whose water is supplied by private wells.

Purpose or General Idea of Bill: To require a water analysis of private well water when a homeowner is selling his house.

Summary of Specific Provisions: Defines contaminant. Requires every real estate contract affecting one or two family residential dwellings serviced by private wells to contain a provision which requires the seller to furnish a report by a certified laboratory stating what contaminants exist in the water supply, within 30 days after the execution of the contract.

If the water is contaminated above standards, the buyer may cancel the contract within 10 days thereafter.

Effects of Present Law Which This Bill Would Alter: Would amend the General Business Law by adding a new Section 396-aa.

Justification: Many unsuspecting individuals decide to invest in a home without knowing that the water supply is contaminated. Private wells are generally shallow and are more susceptible to contamination. A prospective buyer has the right to know the quality of the water supply in order to make a determination whether to buy or whether the buyer or the seller will rectify the situation. Drinking contaminated water may adversely effect the health and safety of the prospective purchaser. The value of the real estate is also decreased if the water supply is contaminated.

Fiscal Implications for State and Local Governments: None

Effective Date: On the ninetieth day after it shall have become a law.

ASBESTOS PIPING
(Senate 5571, Assembly 8401)

Title of Bill: An Act to amend the Public Health Law and the Executive Law, in relation to standards for construction of water supply systems.

Purpose or General Idea of Bill: To require that asbestos piping is visually inspected and tested and the water supply tested to insure that the pipe is structurally sound and is not releasing asbestos fibers into the water supply above standards. Since asbestos pipe has been found to deteriorate due to corrosive water or flooding, the legislation bars its further use.

Summary of Specific Provisions: The bill requires the Department of Health to amend the Sanitary Code which governs the operation of public water supply systems. Regulations must be promulgated to require monitoring of asbestos cement piping that is used to distribute drinking water. The piping must meet performance standards established by the Department or the piping must be replaced. The Executive Law is also amended to amend the NYS Building Code to bar any new installation of asbestos cement piping.

Effects of Present Law Which This Bill Would Alter: Section 225 of the Public Health Law is amended by adding a new Paragraph 9 and Subdivisions 7, 8, and 9 of Section 378 of the Executive Law are renumbered Subdivision 8, 9, and 10 and a new Subdivision 7 is added.

Justification: The New York State Department of Health has been surveying asbestos cement pipe (ACP) during the past two years. The Department found, through voluntary sampling, that 543 public water systems statewide contain some ACP, 120 of which had detectable levels of fibers in the water supply. Inspections and sampling have unveiled significant deterioration in some sytems and several suppliers have chosen to replace the pipe.

The piping can deteriorate primarily due to corrosive water. There are remedial actions that can be taken to prevent deterioration of the pipe such as pH adjustment and adding chemicals that form a coating on the pipes. However, systems which were not using corrosion control at the time of installation are suspect, even if corrosion control is being practiced now.

The two concerns with ACP deterioration are structural integrity for transmission of water and health effects. The asbestos issue was raised in 1985 because of the contamination occurrence in the Town of Woodstock which was viewed as a worse case scenario. In that case, the asbestos was finally discovered because excessive deterioration had clogged filters, reducing water pressure, and fibers could be seen in the water. In the Woodstock report, DOH commented on the controversy of the health effects:

> "There does not appear to be any immediate health effects if you drink water containing asbestos fibers... the available data from human and animal studies are contradictory. While most swallowed asbestos is probably excreted in the feces, some short and long fibers may migrate into and possibly through the lining (mucosa) of the intestines. Because asbestos has been proven to cause human disease especially in occupational studies where it has been inhaled, a conservative approach is that drinking water with high levels of asbestos is a cause for concern."

Because the evidence is inconclusive, the state should be conservative and take steps to prevent deterioration of pipes, replace pipe that has significant deterioration and prevent further use of a pipe that may be a health concern. Deterioration normally would not be detected without visual inspections and water sampling under varying conditions. A program should be established, not based on random or voluntary sampling, but on a systematic approach to detect problems as soon as possible.

Fiscal Implications for State and Local Governments: None

Effective Date: This act shall take effect immediately.

MOISTURE SENSING DEVICES ON WATER SPRINKLERS
(Senate 558, Assembly 4070)

Title of Bill: An Act to amend the Environmental Conservation Law, in relation to requiring moisture sensing devices on water sprinklers.

Purpose or General Idea of Bill: This bill seeks to enhance New York State's awareness of the increasing necessity for water conservation.

Summary of Specific Provisions: Section 15-0314, subdivision 1, is amended to include water sprinklers with respect to certain plumbing fixtures.

Justification: New York State is facing serious water-related problems. There are numerous instances of poor or improper maintenance of timed water systems, leading to numerous cases of water waste.

For example, if it has been raining all night a timed water sprinkler will still be turned on even though the soil is saturated. However, moisture sensing devices will override the sprinkler system until the soil is actually ready to be watered. As a result, sprinklers in combination with properly installed moisture sensing devices can save many gallons of wasted water and thus, reduce water bills.

Most water conservation attempts have been too concerned with short-term goals rather than long-term changes in water systems. For instance, drought crises bring about immediate alarm, leading to emergency plans which inevitably are terminated when the rains begin. This bill will focus on measures which will bring about conservation without impairing the quality of human or vegetative life.

This bill will require moisture sensing devices to be adapted to sprinkler systems in such a way as to override the system when water is unnecessary. Water conservation in this way can be convenient as well as useful. It primarily requires that water systems include efficient hardware and that these systems be maintained with care.

Fiscal Implications for State and Local Governments: None

Effective Date: This act shall take effect on the first day of September next succeeding the date on which it shall have become a law and, with respect to timed water sprinklers sold or installed prior to such date, the provisions of this act shall apply six months after such date.

CONSERVATION AT SEWAGE TREATMENT PLANTS
(S.2560/A.3776)

Title of Bill: An Act to amend the Environmental Conservation Law, in relaton to construction of sewage treatment works.

Purpose or General Idea of Bill: To require projects applying for federal or state assistance in relation to the construction or the operation and maintenance of sewage treatment plants to incorporate measures to conserve water.

Summary of Specific Provisions: Adds, as a condition for an "eligible project" for federal assistance to construct a sewage treatment plant, that the project incorporates reasonable measures to conserve water and limit consumptive water use in the sewage treatment process. It also adds a qualification for state assistance for the operation and maintenance for sewage treatment plants that the municipality submits evidence that it has taken measures to conserve water and limit consumptive water use. Chapter 565 of the Laws of 1989, the water pollution control revolving fund, is also amended to include this provision. These measures shall include, but not be limited to the consideration of reuse of treated wastewater or if not feasible, the use of non-potable water only when such use does not negatively impact wetlands, streamflows or environmentally sensitive areas.

Effects of Present Law Which This Bill Would Alter: Amends Paragraph c of Subdivision one of Section 17-1903 and Paragraph c of Subdivision one of Section 17-1905 and Paragraph d of Subdivision one of Section 17-1909 of the Environmental Conservation Law.

Justification:

Municipalities have received significant amounts of public funds for sewage treatment plants. Many plants discharge the effluent to saltwater and other water bodies that are not sources of drinking water, thereby representing total consumptive use of water. Water which is treated and recharged to the water supply is returned with contaminants, degrading water quality. In both cases, the amount of water discharged from the treatment system should be minimized. Use of nonpotable water for sewage plumbing, processing and treatment, and the recycling or reuse of treated wastewater can minimize the demand, stress, and impact on drinking water sources. Other measures such as water conservation education and retrofitting plumbing by the sewage treatment district will lead to decreased water usage and decreased sewage discharge. Municipalities should advocate and facilitate water conservation to decrease consumption and mitigate environmental impacts. Conservation can forestall and minimize expansion of sewage treatment facilities.

Fiscal Implications for State and Local Governments: None

Effective Date: Immediately

CREDIT FOR INSTALLATION OF WATER CONSERVATION SYSTEMS
(Senate 2661, Assembly 3934)

Title of Bill: An Act to amend the Tax Law, in relation to establishing a credit for the installation of water conservation systems.

Purpose or General Idea of Bill: To establish a tax credit for those who install water conservation systems in their household.

Summary of Specific Provisions: Provides a state tax credit for implementing residential water conservation systems including rainwater and grey water cistern systems, shower and faucet flow-reducing devices and toilet modification.

Provides for a 55% tax credit up to $3,000 for single family systems. For other residential systems, the owner is entitled to a tax credit of $3,000 or 25% of the cost of the system, whichever is greater.

The Commissioner shall determine by regulation those water conservation systems eligible for credit. The bill shall apply to taxable years beginning January 1, 1990.

Effects of Present Law Which This Bill Would Alter: A new Subsection (m) is added to Section 606 of the Tax Law.

Justification: Most residences are equipped with water systems such as toilets, showers, faucets, etc. that are wasteful and inefficient. The tax credit will provide an incentive to citizens to invest in water conservation systems and devices for their home.

Fiscal Implications for State and Local Governments: Unknown

Effective Date: The first day of January next succeeding the date on which it shall have become a law

LEAK DETECTION PROGRAM
(Senate 3763, Assembly 4035)

Title of Bill: An Act to amend the Public Health Law, in relation to establishing a water system leak detection program within the Department of Health and making an appropriation therefor.

Purpose or General Idea of Bill: To establish a program for water system mapping and leak detection in small water systems.

Summary of Specific Provisions: Amends the Public Health Law by allowing the Department of Health to provide leak detection services, water distribution system mapping and related technical assistance to municipal water systems. Directs the Department of Health to establish a pilot program providing leak detection and water system mapping services with less than five thousand residents or less than one thousand connections.

Justification: Many of the State's water supply systems waste and lose a substantial amount of water as a result of leaks and generally dilapidated distribution systems. Unfortunately, many of the smaller systems do not have sufficient technical or financial means to monitor supplies, detect leaks, or identify steps for distribution system rehabilitation.

This program will provide technical assistance to small water systems to map the system and identify leaks.

Fiscal Implications for State and Local Governments: Appropriates $75,000.

Effective Date: This act shall take effect immediately, provided that the provisions of Section two of this act shall take effect on the first day of April, next succeeding the date on which it shall have become a law.

WATERLESS TOILETS
(Senate 4687, Assembly 8073)

Title of Bill: An Act to direct the Department of Environmental Conservation to conduct a feasibility study on the use of waterless toilets and other water conservation devices.

Purpose or General Idea of Bill: The bill would require the New York State Department of Environmental Conservation to study the feasibility of waterless toilets in areas throughout the state. The department shall report the results of its study to the Governor and the Legislature on or before February 1, 1990.

Justification: Increasingly, many areas of the state are experiencing groundwater and surface water contamination due to septic tank leakage, corroding cesspools, inadequate sewage systems, and sewage runoff. This legislation would require the New York State Department of Environmental Conservation to conduct a study on the feasibility of waterless toilets for use throughout the state, with emphasis upon sensitive environmental areas such as the Long Island region and Lake George. Waterless toilets can save over 40,000 gallons of water per year in the average home without any contamination to the groundwater.

The New Jersey Pinelands National Reserve lies on an aquifer of pure water and its porous soil does not adequately filter out pollutants moving toward the aquifer. In order to protect this unique ecosystem from septic contamination, New Jersey's Pinelands National Reserve Comprehensive Management Plan strongly encourages the installation of waterless toilets.

Waterless toilets are increasing in popularity and have been successfully installed in both residential and commercial buildings. The environmental benefits of both water conservation and protection of the groundwater cannot be overstated.

This legislation would provide a comprehensive study of the feasibility of such water conservation devices on a statewide basis.

Fiscal Implications for State and Local Governments: None

Effective Date: This act shall take effect immediately.

WATER CONSERVATION RETROFIT PROGRAM
(Senate 8584, Assembly 10691)

Title of Bill: An Act to amend the Environmental Conservation Law in relation to requiring certain large publicly owned wastewater treatment works to develop and implement domestic plumbing retrofit programs.

Purpose or General Idea of Bill: To conserve water, improve water quality, and cut immediate costs to consumers for water, sewer and water heating bills as well as future costs of expansion or development of new treatment facilities and water supplies by requiring publicly owned wastewater treatment works (POTWs) to develop and implement domestic plumbing retrofit programs.

Summary of Specific Provisions: The bill would require large POTWs which discharge to surface or marine waters and are within counties served by the New York City water supply system and Rockland, Nassau and Suffolk counties develop water conservation retrofit programs. POTWs would be required to achieve a minimum of goal of a fifteen percent reduction in flow from all users, by providing customers, without charge, a water conservation retrofit kit. The kit shall include at least one of the following: low flow shower head, faucet aerator, toilet tank displacement device and toilet tank detection tablets. Devices may be deleted from the kit based on customers' need. In this way, the water saving performance standards that now apply to the sale and installation of new water fixtures will be expanded to pre-1980 water fixtures. POTWs may develop retrofit programs in conunction with other POTWs, municipal governments, local energy utilities, water purveyors, and professional trade organizations. The Department may grant POTWs waivers from requirements deemed to have been met by the effective date of this article. POTWs may also be granted waivers from the fifteen percent influent reduction goal if upon evaluating district water use, POTWs determine that a fifteen percent reduction in influent cannot be achieved by the tenth year of implementation of the plan. The DEC will approve and oversee the implementation of the plan. The bill sunsets fourteen years after the effective date unless reauthorized on the recommendation of the Department and approval of the Legislature.

Effects of Present Law Which This Bill Would Alter: Adds a new Title 14 to Article 15 of the Environmental Conservation Law.

Justification: The New York State Water Resources Management Strategy of 1989 recommends development of comprehensive water conservation programs, including promoting the installation of water saving plumbing fixtures in residences. Water conservation retrofit programs are a prudent, cost-effective means to save water,

improve water quality and defer capital expansion costs.

In the areas of the lower Hudson Valley, New York City and Long Island a large precentage of wastewater treatment plants are operating in violation of flow and SPDES permit requirements and quantity problems are expected to make expansion of New York City's water supply inevitable. By reducing the flow to sewage treatment plants, retrofit programs will enable the plants to operate more efficiently, serve an expanded customer base and better meet permit requirements for capacity and pollutant loadings.

Retrofit programs have realized tremendous savings in other communities by deferring the expansion or reducing the size of expansion of existing treatment facilities. Aggressive conservation through rtrofit programs would also postpone the future expansion of water resources.

Consumers would benefit from reduced water, sewer and water heating bills. The more water the original fixtures use, the more water saved when fitted with retrofit devices. Figures from a comparable HUD study on retrofitting of plumbing fixtures indicate the average actual water savings were 14,500 gallons per household annually. This would translate into a savings to consumers in New York of at least $38.90 annually on water and sewer bills. The greatest potential savings would be seen in water heating bills; from $40 to $100 per year depending on the energy source used. These savings would be further enhanced if leaks are fixed. Using the figures from the HUD study, the estimated payback period for these retrofit kits would be less than six months.

Fiscal Implications for State and Local Governments: Considerable savings will be realized through the deferment of the expansion and reduction of the size of future expansion of POTWs and water supplies. POTWs may adjust sewer rates in order to meet debt service and capital construction costs.

Effective Date: 120 days.

LOCAL ENFORCEMENT OF SPDES
(Senate 3459,Assembly 5387)

Title of Bill: An Act to amend the Environmental Conservation Law, in relation to providing for a local enforcement authority in Suffolk and Nassau Counties for certain provisions; and providing for the repeal of such provisions upon expiration thereof.

Purpose or General Idea of Bill: This legislation would expand the authority of the Suffolk and Nassau health commissoners to initiate civil prosecution for violaton of State Water Pollution Laws (Article 17 of the Environmental Conservation Law).

Summary of Specific Provisions: This legislation amends Section 71-1939, Subdivision one by adding two new Paragraphs C and D. Pursuant to Paragraph C the health commissioners of Suffolk and Nassau Counties would be authorized to bring legal action against certain violators of Article 17 of the Environmental Conservation Law. It requires that prior to commencement of such local enforcement actions, the Commissioner of DEC and the Attorney General be notified by the County bringing said action. Under the terms of the legislation, all local enforcement actions shall comply in all respects with any applicable rule, regulation or policy of the Federal and State Government.

Paragraph D requires that the penalties collected for such local enforcement actions shall be divided as follows:

(1) all necessary and reasonable costs actually incurred shall be retained by the County

(2) the balance shall be distributed one-half to the Department of Environmental Conservation and one-half to the respective County

The legislation shall sunset after three years.

Effects of Present Law Which This Bill Would Alter: Currently, Section 71-1939 of the ECL limits a local health commissioner's enforcement authority to violations of Subdivision 5 of Section 17-0701 (residential disposal) and violations of SPDES permits issued by the local commissioner.

Justification: Under the current state law, local health commissioners are authorized to bring actions to enforce violations of Article 17 of ECL if certain conditions are met. The Environmental Conservation Law Section 17-0701(6) authorizes the Commissioner of the Department of Environmental Conservation to delegate to

qualified personnel of county health departments his duties of review and approval of plans and issuances of SPDES permits. Additionally, ECL Section 71-1939 provides that, when the Commissioner has so delegated these duties, the local health commissioner is authorized to bring any action in court for the recovery of penalties provided by the ECL for violations of Article 17. Significantly, the section also provides that "any penalty collected pursuant to this section shall be paid to the district". To make sure that the State's interests are protected, the Law requires that within three days of bringing an action pursuant to the section, the local health commissioner must provide the Attorney General with a copy of the summons and complaint by registered mail, and the Attorney General is permitted to intervene.

While it appears that the State Legislature's intent is to allow local health commissioners to institute enforcement proceedings, the requirement that they be designated as the issuer of SPDES permits has essentially precluded local enforcement. We know of no cases where the Commissioner of DEC has ever delegated his SPDES permit issuing powers for industrial users to a local commissioner.

The Health Departments of Suffolk and Nassau County are widely respected for their policy of aggressively protecting the groundwater. This policy is necessitated by the simple fact the aquifer is the sole source of water for the residents of the bi-county region. Through adoption of this legislation, Nassau and Suffolk Counties will be afforded additional authority to protect the groundwater from contamination. It will permit these counties to bring actions to enforce violations of the SPDES program whether or not they have been delegated the duty of issuing the SPDES permits.

The proposed amendment will allow Nassau and Suffolk Counties to take a stronger approach to environmental protection. Given the chronic understaffing at the DEC, this will be of immeasurable benefit to the State and ultimately, to the environment.

Fiscal Implications for State and Local Governments: The penalty collected would be divided between the County and the State.

Effective Date: This act shall take effect on the sixtieth day after it shall have become a law and shall remain in full force and effect for a period of three years.

SAFE DRINKING WATER ACT
(Senate 4109, Assembly 6519)

Title of Bill: An Act to amend the Environmental Conservation Law and the Public Health Law in relation to the protection of sources of drinking water.

Purpose or General Idea of Bill: To prevent the discharge of cancer-causing and birth defect-causing chemicals into drinking water supplies and provide that the public be informed of any such discharges that endanger public health.

Summary of Specific Provisions: A new Subdivision 24 is added to Section 17-0105 of the Environmental Conservation Law defining sources of drinking water.

Section 17-0807 of the ECL is amended to prohibit the discharge of substances that cause cancer or birth defects to sources of drinking water. This prohibition applies to discharges covered by the State Pollution Discharge Elimination System (SPDES) Law.

Section 17-0811 of the ECL is amended to bar the discharge of cancer or birth defect-causing chemicals to drinking water through allowances in SPDES permits.

Section 17-0826 of the ECL is amended to provide that companies that release cancer or birth defect-causing chemicals to water supplies notify the local Department of Health and the New York State Department of Health which shall, when necessary, notify the public affected.

Article 24 of the Public Health Law (PHL) is amended by adding a new Section 2405 which instructs the Commissioner of Health to promulgate a list of substances known and suspected of causing cancer in humans.

Article 27-C of the PHL is amended by adding a new Section 2734 which instructs the Commissioner of Health to promulgate a list of substances known and suspected of causing human birth defects.

Justification: Safe drinking water is critically important to public health and the well-being of the economy. Exposure to even minute quantities of chemicals that cause cancer or birth defects means an increased risk of serious harm. The discharge of these substances to drinking water supplies should be prohibited. Furthermore, the public is entitled to know when potentially harmful amounts of these substances enter its drinking water.

Currently, the State Department of Environmental Conservation regulates chemicals entering bodies of water through the State Pollution Discharge Elimination System. Permits specify how much of each pollutant companies or other entities may legally release. This legislation would supplement that system by prohibiting DEC from issuing permits that allow the dumping of any chemicals that cause cancer or birth defects into sources of drinking water supplies.

When deciding the amount of a chemical a company will be allowed to discharge, DEC makes a "risk assessment" to attempt to determine what effect various levels of discharge will have on the environment and public health.

Given the importance of safe drinking water for public and economic health, and because of the uncertainty and guess work inherent in risk assessment calculations, it is appropriate that these water supplies be protected and that the discharge of chemicals that cause birth defects or cancer be prohibited. Essentially, this legislation reflects a judgement that no level of this kind of discharge is acceptable.

When such discharges occur, public health authorities should be notified. If the discharge potentially impacts human health, those who rely on the water supply should be informed.

This bill is modeled after legislation enacted in California in 1986.

Fiscal Implications for State and Local Governments: None

Effective Date: Immediately

SPECIAL GROUNDWATER PROTECTION AREAS DOWNZONING
(S.5565/A.8283)

Title of Bill: An Act to amend the General Municipal Law and the Environmental Conservation Law, in relation to zoning changes n Special Groundwater Protection Areas.

Purpose or General Idea of Bill: To protect drinking water supplies in Special Groundwater Protection Areas by prohibiting certain zoning changes which may be detrimental to water quality and quantity.

Summary of Specific Provisions: Would prohibit any municipal entity from granting, or from authorizing the granting, of less restrictive zoning density requirements ("downzoning") in a Special Groundwater Protection Area.

Effects of Present Law Which This Bill Would Alter: Would add a new Section 239-yy to Article 12-F of the General Municipal Law. It would also add a new Subdivision 3 to Section 55-0111 of the Environmental Conservation Law.

Justification: Section 55-0107 of the Environmental Conservation Law designates nine Special Goundwater Protection Areas (SGPAs) in Nassau and Suffolk Counties. These SGPAs represent the last remaining largely undeveloped areas below which deep, high-quality goundwater recharge occurs.

Development is threatening these SGPAs, and some SGPAs already have zoning density requirements which are inadequate to protect the recharge and quality of the groundwater below. It is vital that action be taken to protect these areas from overdevelopment.

Fiscal Implications for State and Local Governments: None.

Effective Date: This act shall take effect immediately.

CRITICAL ENVIRONMENTAL AREA DOWNZONING
(S.5566/A.8284)

Title of Bill: An Act to amend the General Municipal Law and the Environmental Conservation Law, in relation to zoning changes in Critical Environmental Areas.

Purpose or General Idea of Bill: To protect Critical Environmental Areas by prohibiting certain potentially detrimental zoning changes.

Summary of Specific Provisions: Would prohibit any municipal entity from granting, or from authorizing the granting, of less restrictive zoning density requirements ("downzoning") in Critical Environmental Areas.

Effects of Present Law Which This Bill Would Alter: Would add a new Section 239-yy to Article 12-F of the General Municipal Law. It would also add a new Section 8-0119 to the Environmental Conservation Law.

Justification: Section 8-0105 of the Environmental Conservation Law authorizes state or local agencies to designate geographic areas with exceptional or unique characteristics that make them environmentally important as "Critical Environmental Areas" (CEAs). Threatened in many cases by overdevelopment, CEAs should be protected from further degradation. This bill would not restrict development in accordance with present zoning, but would prevent the granting of zoning changes which would allow higher density development than already permitted.

Fiscal Implications for State and Local Governments: None

Effective Date: Immediately

SPDES MORATORIUM IN SGPAs
(Senate 5567, Assembly 8280)

Title of Bill: An Act to amend the Environmental Conservation Law, in relation to a moratorium on issuance of certain permits within Special Groundwater Protection areas on Long Island.

Purpose or General Idea of Bill: To protect Special Groundwater Protection Areas from detrimental development for two years or until special groundwater protection plans have been implemented for these areas.

Summary of Specific Provisions: Would prohibit the issuance of State Pollutant Discharge Eliminiation System (SPDES) permits in Special Groundwater Protection Areas. The SPDES permit moratorium would last for two years, or until groundwater protection plans for all Special Groundwater Protection Areas have been implemented. The Commissioner of Environmental Conservation shall determine, after a public hearing, whether groundwater protection plans have been implemented.

Effects of Present Law Which This Bill Would Alter: Would amend Subdivision 1 of Section 17-0703 of the Environmental Conservation Law. It would also add a new Subdivision 8 to Section 55-0113 of the Environmental Conservation Law.

Justification: Section 55-0107 of the Environmental Conservation Law designates nine Special Groundwater Protection Areas (SGPAs). These SGPAs represent the last remaining large undeveloped areas above which deep, high-quality groundwater recharge occurs.

Poorly planned, large scale development within these areas represent the greatest threat to the preservation of SGPAs as sources of high quality drinking water. Since large scale developments that discharge more than 30,000 gallons of sewage per day require a SPDES permit, this legislation would prevent poorly planned projects from being constructed until the Long Island Regional Planning Board completes its study of SGPAs and the state has an opportunity to implement management plans.

A SPDES permit moratorium would, in effect, prevent widescale overdevelopment and degradation of the SGPAs, and encourage developers and municipalities to take a common sense approach to planning in these critical areas.

Fiscal Implications for State and Local Governments: None

Effective Date: This act would take effect immediately.

quality and quantity have changed dramatically in many of these streams. Current regulatory programs do not address the cumulative impacts of suburbanization, lowered water tables or the best overall management of these streams.

In order to protect Long Island's streams and their natural, ecological and asthetic qualities, for the future, a program providing for their proper management and protection is essential.

These management plans would restore and protect the important function these streams serve.

Fiscal Implications for State and Local Governments: None to state or local government.

Effective Date: Immediately, except that Section 15-2809 ("Penalties") shall take effect three years after enactment.

WATER RECHARGE BASINS
(Senate 5569, Assembly 8279)

Title of Bill: An Act to amend the Environmental Conservation Law, in relation to management of water recharge protection areas in federally designated sole source aquifers.

Purpose or General Idea of Bill: To give special recognition, designation and protection to water recharge basins in sole source aquifer areas, and to provide for the proper management of such basins.

Summary of Specific Provisions: The provisions of Section 15-0516 include:

The designation of any municipal or publicly-owned or operated water in a recharge basin in a sole source aquifer as a "water recharge protection area." The Department of Environmental Conservation (DEC) would have to maintain an inventory of all such basins.

A prohibition on the dumping or depositing of any waste of regulated material upon any water recharge protection area or its drainage area.

A prohibition on the construction of structures within or above recharge basins unless they are associated with recharge basin functions; the diverting of recharge basin waters which are currently recharging groundwater would also be prohibited.

Signs facing each side of the perimeter of all water recharge protection areas shall be posted; information on the function and importance of recharge basins, prohibited activities and penalties shall be included on the signs.

No environmental impact statements shall be required to implement the provisions of this act.

The Commissioner of DEC shall promulgate rules and regulations regarding water recharge protection areas. These shall include requirements for fencing, best management of vegetation, periodic removal of wastes within the area and testing and management of soils at the bottom of the basins.

Water recharge protection areas would not be subject to any incompatible uses, even if the use is temporary.

Violations of these provisions would constitute a misdemeanor, punishable by a fine not to exceed $10,000, and/or by imprisonment not to exceed one year, and/or by a civil penalty of not more than $5,000.

Effects of Present Law Which This Bill Would Alter: A new Section 15-0516, entitled, "Water Recharge Protection Area Act," would be added to the Environmental Conservation Law. In addition, Section 71-1107 of the Envrionmental Conservation Law would be amended.

Justification: Water recharge basins, most commonly known as "sumps," serve a critical function in the hydrogeological cycle, and they must be preserved and protected to the greatest extent possible.

In addition to serving as stormwater collection and drainage areas from roads and parking lots, these basins replenish significant amounts of water to the groundwater system. This makes them especially important in sole source aquifer areas, where they play a major role in maintaining adequate groundwater levels. Many recharge basins also serve as open space and wildlife habitats.

Unfortunately, in many cases recharge basins are not being properly maintained; in some cases they are being used for purposes completely incompatible with their intended functions. Recharge basins have been used for the dumping of construction debris and household wastes, the storage of machinery and building materials, and some have been subject to vandalism.

Formal maintenance and management plans must be developed for these important recharge basins, in order to end their widespread abuse and neglect.

Fiscal Implications for State and Local Governments: Minimal

Effective Date: This act would take effect on the 120th day after its enactment, providing that the DEC Commissioner has promulgated all necessary rules and regulations.

PRESERVATION OF EQBA LANDS
(Senate 5570, Assembly 8399)

Title of Bill: An Act to amend the Environmental Conservation Law, in relation to dedication of property acquired pursuant to the Environmental Quality Bond Act of 1986.

Purpose or General Idea of Bill: To clarify that land acquired by the State for environmental or historical preservation purposes under the Environmental Quality Bond Act of 1986 can be dedicated to the State Nature and Historical Preserve Trust. Land purchased under the 1972 EQBA can already be dedicated to the Trust.

Summary of Specific Provisions: Would add Titles Seven and Nine of the Environmental Quality Bond Act of 1986 to the list of types of land which may be dedicated to the State Nature and Historical Preserve Trust.

Effects of Present Law Which This Bill Would Alter: Would amend Subdivision 2 of Section 45-0113 of the Environmental Conservation Law.

Justification: The State Nature and Historical Preserve Trust provides protection of lands of special natural beauty, wilderness character or geological, ecological or historical significance so that future generations may share their value. Presently, only lands owned by the State or real property acquired under the Environmental Quality Bond Act of 1972 may be dedicated to the Trust.

Title Seven of the Environmental Quality Bond Act of 1986 provided for the purchase of environmentally sensitive lands (aquifer recharge areas, areas of exceptional scenic beauty, pine barrens, wetlands and other types of sensitive areas), while Title Nine provided for the purchase of lands for historic preservation, municipal park and urban cultural park projects.

Lands are added to the State Nature and Historic Preserve Trust by law after review and recommendation by the trust's Board of Trustees. There is no reason why the lands purchased under Titles Seven and Nine of the EQBA of 1972 should not enjoy the potential benefits of inclusion in the Trust.

Fiscal Implications for State and Local Governments: None to the State or to local governments.

Effective Date: Immediately

ALIENATION OF EQBA LANDS
(Senate 5572, Assembly 8398)

Title of Bill: An Act to amend the Environmental Conservation Law, in relation to legislative authorization for change in usage of certain lands.

Purpose or General Idea of Bill: To require that real property acquired with monies from the 1986 Environmental Quality Bond Act for the purpose of protecting environmentally sensitive lands could not be sold or disposed of without an act of the State Legislature. The simultaneous substitution of other lands of equal fair market value and reasonable usefulness would also be required.

Summary of Specific Provisions: Would require that lands acquired under Title Seven of the Environmental Quality Bond Act of 1986 from being sold, disposed of, or used for any other purpose than for which they were originally purchased without the express authority of the State Legislature. Redesignation of Title Seven property would not be effective until other lands of equal fair market value and equivalent natural resource value and location to those discontinued are substituted.

Effects of Present Law Which This Bill Would Alter: Would add a new Subdivision 4 to Section 52-0701 of the Environmental Conservation Law.

Justification: Title Seven of the Environmental Quality Bond Act (EQBA) of 1986 provides for the purchase of environmentally-sensitive land projects and forest preservation projects. These types of lands include aquifer recharge areas, areas of exceptional scenic beauty, exceptional forest character, open space, pine barrens, wetlands and wildlife habitats.

The public would expect these kinds of EQBA-purchased lands to be protected. However, some environmentally-concerned landowners have been hesitant to sell their land under EQBA for fear that it may some day be sold to developers or in some other way be spoiled. This recurrent problem has slowed down some negotiations for land purchase.

This legislation would give assurances to owners of environmentally-sensitive lands and to the public that lands purchased under Title Seven will remain undeveloped and unsold without an act of the State Legislature and the substitution of comparable lands.

Fiscal Implications for State and Local Governments: None

Effective Date: Immediately

SEQRA SGPA FINDINGS
(Senate 7947, Assembly 9802)

Title of Bill: An Act to amend the Environmental Conservation Law, in relation to Environmental Impact Statements for actions having significant impact on Special Groundwater Protection Areas.

Purpose or General Idea of Bill: To require the filing of the more complete environmental reviews for proposed actions which may have a detrimental effect on Long Island's vital Special Groundwater Protection Areas (SGPAs).

Summary of Specific Provisions: Detailed Environmental Impact Statements (E.I.S.), filed for proposed actions which may have a significant effect on the environment, would have to describe the action's consistency with the SGPA Management Plan. In addition, for any proposed "minor" projects for which a detailed E.I.S. is not required, the project's consistency or inconsistency with the SGPA Management Plans must be shown.

Effects of Present Law Which This Bill Would Alter: Would amend Subdivisions 2 and 4 of Section 8-0109 of the Environmental Conservation Law, and would add a new Subdivision 9. Would also amend Subdivision 3 of Section 55-0107 and add a new Subdivision 6 to Section 55-0117 of the Environmental Conservation Law.

Justification: In 1987, the Legislature identified an initial nine Special Groundwater Protection Areas in Nassau and Suffolk Counties. The SGPAs represent the last high-quality, deep-flow water replenishment areas on Long Island, the world's largest "sole source aquifer." The Long Island Regional Planning Board is now completing a management plan for the SGPAs, which will be forwarded to the Commissioner of Environmental Conservation for approval. A number of the SGPAs are being threatened by proposed development, and it is essential that the most detailed information possible be known about projects which may jeopardize the quality and quantity of the water supply.

This legislation would add a greater element of public scrutiny to proposed projects and actions in the SGPAs. Sponsors of projects which may have either a significant or minor effect on the SGPAs must at least acknowledge the existence of the management plans, and the project's consistency or inconsistency with the plans. If contamination occurs in these water recharge zones, its effects could be felt by people across Long Island for generations to come.

Fiscal Implications for State and Local Governments: None

Effective Date: Immediately

1990 BOND ACT
(Senate 8194, Assembly 1157)

Title of Bill: An Act authorizing the creation of a state debt to the amount of one billion nine hundred seventy-five million dollars, in relation to creating the twenty-first century environmental quality bond act, to provide moneys for the preservation, enhancement, restoration, improvement and stewardship of the state's environment, to provide for state assistance payments for such purpose and to match federal funds which may from time to time be made available by Congress for such purpose, and providing for the submission to the people of a proposition or question therefor to be voted upon at the general election to be held in November 1990.

Purpose or General Idea of Bill: To authorize a general obligation debt for funding the acquisition of environmentally significant lands, stewardship projects, water quality improvement, municipal landfill closure, municipal recycling projects including innovative recycling demonstrations, secondary materials regional marketing assistance, medical waste management projects, historic preservation and state and municipal parks.

Summary of Specific Provisions: This bill will authorize the creation of a general obligation debt in the amount of $1.975 billion upon approval by the electorate in November 1990. Pursuant to the bill, $800 million will be made available for land acquisition projects by the Department of Environmental Conservation (DEC) and the office of Parks, Recreation, and Historic Preservation (OPRHP), and a process is provided for regional and statewide planning for such acquisition. $201 million will be made available for stewardship projects undertaken by state agencies and for payments by the state toward the cost of such projects undertaken by municipalities, and $174 million for state payments to match federal capitalization grant payments to the State Revolving Fund to assist municipalities to finance wastewater tratment projects, and for state payments to the Great Lakes Protection Fund established by the Council of Great Lakes Governors. $175 million will be available for a matching grant program to assist in the closure of municipal landfills. A total of $300 million will be available for matching grants to municipalities for recycling efforts including $140 million for municipal waste recycling projects, $20 million for innocative recycling demonstration projects, and $140 million for secondary materials regional marketing assistance projects. Medical waste management projects will receive $50 million. Finally, $175 million will be made available for municipal parks and recreation and historic preservation grant programs, and $100 million will be made available for a sepcial park project commonly referred to as the west side waterfront esplanade.

Effects of Present Law Which This Bill Would Alter: To protect environmentally sensitive or significant land through public ownership, this bond act continues the program begun by the Environmental Quality Bod Acts of 1972 and 1986. Teh 1972 Environmental Quality Bond Act (1972 bond act) provided $107 million of funding for land acquisition in seven categories of environmentally sensitive or significant land, and the 1986 Environmental Quality Bond Act (1986 bond act) provided $145 million for acquisition in eleven categories of land.

This bond act provides $800 million for land acquisition. There are four new categories fo environmentally significant land designated by this bond act which provide for the acquisition of those lands eligible under the 1986 bond act and, in addition, provide for the acquisition of lands having value as significant habitat for plants, and for wildlife other than rare of endangered species, and provide for the protection of lands adjacent to lakes, rivers, the ocean, reservoirs, and other bodies of water. "Working landscapes" is a new category which provides for acquisitions to preserve New york's actively managed landscapes, including agricultural and woodlot lands, to protect these scenic areas from development. Supplemented by these new provisions, this bond act will provide financing to carry forward the land acquisition program so successfully begun under the previous bond acts, and on a scale which is proportional to projected need.

The proposed capital construction projects for state agencies, public authorities, public corporations, municipalities and not-for-profit corporations are undertaken to protect and preserve the natural and historic environment of the state. Many audits which identified numerous environmental inadequacies at these facilities. This bond act will enable such stewardship projects to be undertaken on a more comprehensive basis than would otherwise be possible.

The state Water Pollution Control Revolving Fund was established by Chapter 565 of the Laws of 1989. That law establishes a mechanism for the operation of the fund and authorizes the receipt of federal funds, but does not provide a source of state matching funds. Similarly, no existing law provides funding for the Great Lakes Protection Fund. This bond act will provide funding for both of these programs.

A previous effort to establish a financial assistance program to help finance the closure of municipal landfills is found in the loan program of Title 5 of the 1986 bond act. This bond act amends the provisions of the 1986 bond act to provide that the $100 million authorized for landfill closure be provided to municipalities in the form of grants, and provides an additional $175 million to assist municipalities in closing nonhazardous landfills.

This bond act addresses on a broad scale, municipal recycling needs which have been identified in previous acts. Chapter 552 of the laws of 1980, and Chapter 615 of the laws of 1987 have funded municipal recycling projects on a small scale. In addition, the 1972 bond act provided some assistance for recycling. This bond act carries on the work begun by these previous efforts, but on a much broader scale, and establishes a secondary materials regional marketing assistance program as a significant expansion of the market development assistance presently available from the department of economic development. No previous legislation has provided State assistance to innovative recycling demonstraton projects or to medical waste management projects.

The land program to provide funding for State park, conservation and outdoor recreaton purposes was contained in the 1972 bond act. The project categories in this bond act mirror those of the 1972 bond act, except for the new metropolitan development of waterfront facilities in certain municipalities. Funding for state historic preservation acquisition purposes was last provided by the Outdoor Recreation Development Bond Act of 1965. The 1986 Environmental Quality Bond Act contained a program for state historic preservation improvement, rehabilitation and restoration, but not for acquisition. This bond act provides funding for all of these important pruposes.

State assistance payments to municipalities for municipal park, recreation and historic preservation and urban cultral parks purposes wsa provided in the 1986 bond act. The project cateogries in this bond act continue those of the 1986 bond act. Similarly, the provisions which provide for state assistance payments to not-for-profit corporations for historic preservation purposes are continued from the 1986 bond act, but the provision authorizing state assistance payments to not-for-profit corporatons for the acquisition of lands for outdoor recreation and conservation purposes are new.

The provisions of this bond act authorizing State assistance payments to the city of New York for the westside waterfront esplanade are new.

Justification: This bond act is proposed at a time in the history of New York State when the natural, undeveloped condition of many and large sections of the state are under heavy development pressure. As development proceeds, there is increasing need to ensure that environmentally significant lands are available for parks and preserves, as well as for agriculture and other purposes. Now as never before, it is necessary to provide the protection of puboic ownership, or ownership of development rights, for land, parks, and historic properties. The preservation of such natural and historic resources is a key part of the long-term preservation, enhancement, management, restoration and improvement of the quality of the environment of the state. The need for protection of open land and natural resources is particularly urgent as the State

advances into the twenty-first century, as open land resources become more scarce, as the competition for the remaining undeveloped land becomes more intense, and as the impacts on irreplaceable land and water resources increase. This bond act will provide financial resources to define the landscape of this state for the twenty-first century and beyond.

In order to ensure that the regional and statewide needs and priorities for the conservation of land and other resources are identified and addressed, the implementing bill establishes a process for land acquisition. Regional advisory committees are established throughout the state and empowered to identify priorities and make recommendations concerning land acquisitions. The commissioners of DEC and OPRHP will develop and inventory of resources and plan for land acquisition assisted by the advice of the regional committees. In addition, a state land acquisition advisory council is established to advise the commissioners and make recommendations regarding acquisitions. As an element of the process, there is explicit provision that acquisition of conservation easements will be given consideration in each acquisition and utilized where practicable, and the procedure of eminent domain will be used only when reasonable efforts to obtain voluntary agreement have failed.

Just as it is essential that we preserve opn space and environmentally significant lands for the future, it is equally important that we preserve and protect our historical and cultural resources. Funding for historic preservation acquisition as well as for historic preservation improvement, rehabilitation and restoration are crtically needed to enable these efforts to proceed. Similarly, present funding resouces for municipal park and recreational facilities and urban cultural parks purposes are not adequate to meet current and projected needs.

This proposal adds a new program of funding to not-for-profit corporatons for the acquisition of land for outdoor recreation and conservation purposes. This program will enable the state to provide for the qcquisition and preservation of lands of great value for preservation and open space purposes for a fraction of the cost of projects undertaken by the state alone. By using such mechanisms as conservation easements and development restrictions, the state can assure the protectionand preservation of such lands for the public benefit.

The 50% matching grant to the City of New York for the development of the Westside Waterfront Esplanade, as authorized by this bond act, limits the state's contribution to one hundred million dollars. This project will provide a new and significant recreational opportunity to the residents of, and visitors to our state's largest city, and will provide for the preservation of a portion of waterfront in an area where such land is rapidly disappearing due to commercial development. The bill makes specific provision that bond funds be used for direct costs of the project within restrictions on filling and development in the Hudson River.

The environment of the state will also benefit from positive stewardship actions by state agencies, public authorities, public benefit corporations, and municipalities to preserve, protect and educate the public concerning environmental and historical values, to promote and facilitate public use of environmental and historical resources and facilities, and bring public facilities into full compliance with environmental laws and standards. Similarly, the quality of the state's water resources will be improved and protected by funding of the Great Lakes Protection Fund, pursuant to interstate agreement, and by payments to the state water pollution control revlolving fund to match federal capitalization grant payments.

It is critical that the state enter the twenty-first century with an effective program for wtaer quality and for managing solid waste as well. The proper and environmentally sound management of medical waste must be encouraged; old municipal landfills must be properly closed; vigorous recycling programs including secondary materials marketing assistance must be organized and operated, to conserve precious resources and avoid unnecessary consumption of landfill disposal capacity.

Fiscal Implications for State and Local Governments: Proceeds from the 21st Century Environmental Quality Bond Act will provide the fiscal capacity to implement critical environmental initiatives. To this end, the legislation includes the following appropriations for the 1990-91 State Fiscal Year:

- $25 million for OPRHP and $125 million for DEC for land acquisition activities;

- $20 million for innovative recycling demonstration program grants

- $10 million for municipal landfill closure grants; and

- $8 million to finance the State's contribution to the Great Lakes Protection Fund.

- $17 million for payment of the state share of the costs of regulated medical waste management projects.

In addition, the 1990-91 Financial Plan assumes the disbursement of $135 million in bond proceeds to reimburse 1990-91 Capital Projects provided for in the Executive Budget. The use of bond proceeds for this purpose will insure timely implementation of important environmental proservation and recreatonal improvement projects.

MARINE DISTRICT FUND
(Senate 1736, Assembly 2680)

Title of Bill: To create a marine and coastal district fund and a fund advisory council to oversee its use.

Summary of Specific Provisions: Creates a new Section 84 in the State Finance law, establishing the Marine and Coastal District Fund, and creates a new Section 13-0315 in the Environmental Conservation Law establishing a Marine and Coastal District Fund Advisory Council.

Justification: New York State boasts of having one of the greatest natural resources in the world: 8 million acres of some of the most productive marine and coastal districts. Nearly 2 million people angle in our waters, and 9 million take part in some form of recreation. In total, over $1.5 billion in economic activity in New York can be attributed to the Marine and Coastal District, with a tremendous potential for expansion.

The New York State Department of Environmental Conservation, through its Division of Marine and Coastal Resources and its Division of Law Enforcements, has charge of the care, management, and protection of our marine and coastal resources. Since 1970, the Division of Marine and Coastal Resources has seen nearly a 50% cut in their ability to engage in studies and management of our marine resources. The Division of Law Enforcement has been forced to cut nearly 60% of its staff in the Marine and Coastal District. In Nassau and Suffolk, the number of EnCon officers has been reduced from 35 in 1970 to only 22 today, while their duties have been greatly expanded. It is important to note that these cuts in law enforcement have been focused on at several hearings regarding the health problems associated with the eating of hard clams during the winter of 1982. The value of the hard clam industry to New York State'e economy has been estimated at $100 million.

While the DEC has seen their capabilities drastically reduced, other factors are also apparent. There has been, for the last several years, virtually no support effort by the state to stimulate the construction of marine access facilities.

The creation of the Marine and Coastal District Fund would act to halt better than a decade's trend of decreased state support for activities in the Marine and Coastal District.

Use of highway fuel taxes paid by marine boaters in the coastal district is justified for two reasons! (1) Up until 1977, these funds went into an Outdoor Recreation Development Account and were used to provide up to a 75% state match for the construction of marine facilities. These grants and the fund have been eliminated; and (2) All marine boaters have a large impact on the Marine District. Use of the highway motor fuel tax paid by marine boaters will supply a base level of funding for both management and enforcement at approximately the same level of funds now being appropriated out of general revenues.

This act would also call for the earmarking of monies arising out of the application and enforcement of Article 13 of the Environmental Conservation Law referring to the Marine and Coastal District. These funds are derived from various licenses and permits presently required under the provisions of Article 13 of the ECL. Also, it would require that the $50,000 presently being collected as a result of fines from those who violate the provisions of Article 13 be returned to the fund.

The federal sources of revenues mentioned in this act are presently contributing $1.9 million to the state. Other sources are being given strong consideration by Congress. All the proposals, including present federal funding to some degree, require a state match. The Marine and Coastal District Fund could provide this state match.

In addition, the act would require that fines levied against municipalities for illegal discharges of sewage, including for the improper operation of a sewage treatment plant, would be deposited in the marine and coastal district fund. It is only appropriate that these fines, which are levied for marine water degradation, be applied to programs for the improvement of water quality.

In total, the creation of a Marine and Coastal Fund will do for the Marine District what the Conservation Fund has done for freshwater fishing and hunting. It has provided increased opportunities for use of a state resource that is properly managed, and in return has stimulated economic activity in tourism and recreation.

Fiscal Implications for State and Local Governments: Increased revenues for the state based on the fund's ability to provide state matching shares for certain federal grants.

Effective Date: This act shall take effect on the first day of April next succeeding the date on which it shall have become a law.

COMBINED SEWAGE OVERFLOWS ABATEMENT
(Senate 1922, Assembly 2981)

Title of Bill: An Act to amend the Environmental Conservation Law in relation to disposal of sewage into the marine district or ocean waters.

Purpose or General Idea of Bill: This bill would require the installation of devices to remove floatable materials from combined Sewage Overflows in any sewage disposal system with a design capacity of at least twenty million gallons, or whose receiving waters are located in the Marine and Coastal District. This would become a condition of SPDES permits after January 1, 1992.

Justification: Currently, 24 municipal sewage treatment plants in New York State dispose of 156,000 tons of sewage sludge in the Atlantic Ocean. Additionally, raw sewage is released into the marine district from combined sewer overflows (CSO's), located primarily in New York City, when it rains. NYSDEC estimates that on the average, 172 million gallons of raw sewage per day is released into the marine environment from CSO's. Although New York City has developed a long-term CSO abatement program, the installation of screens or other devices would act as an immediate measure to prevent floatable materials (including plastics and syringes) from entering the Marine District and the beaches in it. Floatables were a major cause of Long Island, New York City and New Jersey beach closings during 1988, which cost billions of dollars in lost tourism revenues to Marine District counties.

Fiscal Implications for State and Local Governments: None

Effective Date: Immediately

GENERATORS FOR SEWAGE DISPOSAL SYSTEMS
(Senate 3432, Assembly 5369)

Title of Bill: An Act to amend the Environmental Conservation Law, in relation to requiring sewage disposal systems to provide for emergency generators.

Purpose or General Idea of Bill: To require sewage disposal systems with a capacity of twenty million gallons or more, or whose receiving waters are in the Marine and Coastal District to be equipped with, or make the provisions for, emergency generators. This requirement could be waived if the prevention of possible accidental discharges into surrounding waters because of power failure has been addressed by other means.

Summary of Specific Provisions: Subdivisions 7 and 8 of Section 17-0815 of the Environmental Conservation Law are renumbered Subdivisions 8 and 9 and a new Subdivision 7 is added.

Justification: During the summer of 1988, many beaches on Long Island, Westchester, and New York City were closed due to major marine pollution problems. Some closings were due to sewage treatment plant failures, and at least one of which was weather-related. For example, one of the failures at the Port Richmond treatment plant on Staten Island poured millions of gallons of raw sewage into the Kill Van Kull. Since then, the NYS-DEC has revealed that as many as half of New York City's sewage treatment plants and a number of others in the Marine and Coastal District do not have emergency generators and could also release untreated sewage during a storm-induced power failure. Emergency generators or a number of other techniques could prevent these occurrences in the future.

Both the Long Island Tourism and Convention Commission and the Waste Management Institute at SUNY Stony Brook have estimated that over a billion dollars was lost to Long Island's economy alone this past summer because of marine pollution events; as much as five billion dollars was lost to the New York-New Jersey area economy. Economic losses to the commercial and recreational fishing industries, the seafood industry, and restaurants were also substantial. Clearly, emergency generators are a prudent investment.

Fiscal Implications for State and Local Governments: None to the State. Small initial costs to some local governments. The economic benefits of maintaining good water quality greatly exceeds the costs of an emergency generating system.

Effective Date: This act will take effect on the first day of January next succeeding the date of enactment, and would apply to every state pollutant discharge elimination system permit issued or renewed on or after such effective date.

OIL SPILL CONTINGENCY PLAN
(Senate 6733, Assembly 9079)

Title of Bill: An Act to amend the Navigation Law and the Public Health Law, in relation to the Oil Spill Prevention and Contingency Act of 1990.

Purpose or General Idea of Bill: To take affirmative steps to help ensure that New York State is best able to prevent, mitigate and protect itself from the serious environmental threat of petroleum spills in the Marine and Coastal District.

Summary of Specific Provisions: This act contains the following revisions:

- Would direct the Commissioner of Environmental Conservation to set minimum conditions (visibility, tide, wind, weather, etc.) during which tankers may enter, leave or navigate upon navigable waters.

In addition, it would be unlawful for any petroleum-bearing vessel to enter any "tanker-free zones," as designated by the Commissioner.

- Containment booms would have to be deployed around any vessel or facility transferring petroleum.

- The Commissioner of Environmental Conservation would issue an annually-updated catalogue of existing and available pre-sonnel and equipment which could be utilized in case of a major oil spill. The catalogue would include information on how to contact the people who own the equipment, and would be distributed to the chief executives of all municipalities and to the Commissioners of Health of all counties.

- At least ten public or private facilities, including five around the Marine and Coastal District, must be identified to serve as potential communication/command centers in case of a major spill. These pre-designated sites would help ensure adequate communication facilities and equipment in strategic lecations in case of an emergency.

- The DEC Commissioner would be authorized to promulgate regulatons limiting or prohibiting the use of chemical dispersants, or specific types of dispersents, during an oil spill.

- A temporary task force would study existing information on key environmental areas around the Marine and Coastal District and estimate the feasibility, desirability and potential costs of pre-positioning oil protecton quipment around them.

A variety of state and local government officials and marine researchers would comprise the task force, which would issue its recomendations within seven months and then go out of existence.

Effects of Present Law Which This Bill Would Alter: Would add a new Part 2-a to jArticle 4 of the Navigation Law, entitled "Petroleum-Bearing Vessels." Would add a new Subdivision 15-a to Section 172 of the Navigation Law. Would add a new Section 174-a and six new Subdivisions (5 through 10) to Section 177 of the Navigation Law.

Justification: New York State is not as prepared or ready as it should be to deal quickly, effectively and intelligently with a major oil spill emergency. Explanations of specific provisions of the act are as follows:

Petroleum-Bearing Vessels - Even with the most modern directional and navagation equipment, weather and other natural conditions can make vessel navigation hazardous (for example, two well-equipped and staffed ferries collided during a dense fog off of Port Jefferson in 1988). In order to minimize risks of collisions, groundings and other mishaps, certain times and conditions should be identified when petroleum-bearing vessels should simply not be moving around the Marine District.

Boom Deployment - The harmful effects of petroleum spillages, both large and small, can be reduced or controlled if the spilled substance is contained around the source.

Annual Catalogue - It is vital that officials have access to comprehensive, accurate and up-to-date information on existing and available personnel which could be utilized in case of a major oil spill. Currently, no such annually-updated information exists in one easily-accessible source. This situation can easily lead to confusion, fustration and a critical loss of valuable time during an actual large-scale crisis.

Pre-designated Command Centers - During an actual emergency, it would be vital that officials have access to adequate communication facilities and equipment. A series of pre-selected sites around the state would save time in an actual crisis, since differenct centers could be automatically operational depending on the location of a spill off the coast. These centers would help in coordinating containment efforts, while getting appropriate information to the press and public (for example, there must be enough telephones to allow officials to communicate with each other and those in the field, and to allow for incoming calls for information).

It could be tragic if containment efforts are hampered during the critical first few hours of a spill simply because an adequate number of telephones and other types of equipment were not available.

Limits on Dispersants - Dispersants are detergent-like chemicals sprayed on oil to cause it to break up or sink to the bottom. Studies have shown that organisms in the upper layer of the water column may experience more exposure to oil if the oil is dispersed (dispersants serve little purpose after approximately two days anyway, since petroleum will generally begin to break up on its own).

Petroleum Pipeline Invietory - Cleanup efforts during the recent Arthur Kill spill werre hampered due to confusion over the exact location and nature of the underwater pipeline which was leaking. A centralized inventory of all oil pipelines and transmission lines would not only aid in oil spill cleanup but would be a great aid to safe navagation around harbors and inlets.

Task Force - Under certain conditions (whether, location) it would not be possible to contain a major oil spill in the Marine and Coastal District.

Maps of environmentally-sensitive areas around the district have been prepared and updated by DEC at the request of the Coast Guard. These maps, based largely on information from the Department of State, will be part of an inventory of geography, equipment,communications resources and personnel which the Coast Guard says it will compile.

This project is a positive development, but simply cataloging where things are would not be enough to adequately prepare for an oil-spill disaster. Key environmental areas should not only be identified, but prioritized and equipment should be pre-staged and in a position to be quickly deployed when necessary (a number of commerical fishing organizations have indicated the willingness of their members to deploy containment booms or other equipment in a kind of emergency volunteer network if the equipment is available and ready for use).

Fiscal Implications for State and Local Governments: None

Effective Date: Immediately, except for Sctions 3 and 4 (120 days from enactment) and Section 5 (60 days after enactment).

LONG ISLAND STREAM MANAGEMENT
(Senate 5568, Assembly 8281)

Title of Bill: An Act to amend the Environmental Conservation Law, in relation to the Long Island Stream Management Act.

Purpose or General Idea of Bill: To protect Long Island streams, and their immediate environs, which possess natural, scenic, historic, recreational values by creating the Long Island Stream Management System.

Summary of Specific Provisions: The provisions of this Act include the following:

- Long Island streams, and their immediate environs, possessing natural, scenic, historical, ecological and recreational values would be designated by the Commissioner of Environmental Conservation as being included in the Long Island Stream Management System.

- Any interested party may submit to the Commissioner a management plan for a designated stream. Upon acceptance of the plan, the Commissioner will promulgate the plan in the form of regulations, including the desired quantity and quality of stream waters and development within the drainage area.

- Flow studies would be performed for all streams included within the system. Appropriate regulations for the augmentation or remediation of stream flows will be promulgated.

- Violators of any regulation or order related to the Act may be compelled to comply by appropriate court action. In addition, violators would be punishable by a civil penalty of between $100 and $1,000 for each day of the violation. The Commissioner is authorized to commence a civil action to recover appropriate relief.

Effects of Present Law Which This Bill Would Alter: Would add a new Title 28 to the Environmental Conservaiton Law, entitled the "Long Island Stream Management Act."

Justification: Long Island has long been known as an important location for the migration and reproduction of many species. The streams on Long Island play an important role in these ecological processes. As Long Island has been increasingly suburbanized,

1991 LEGISLATIVE PROGRAM

Drinking Water Supply Management

S.1826/A.2831	Bottled Water Tax Exemption
S.3537/A.5843	Asbestos Cement Piping Ban
S.3636/A.6113	Definition of Qualified Laboratory
S.3647/A.6112	Water Well Testing
S.4799/A.8231	Water Vending Machines

Water Conservation

S.1829/A.2828	Greywater Regulations
S.4313/A.7092	Water Conservation Retrofit Program
S.5602/A.6097	Irrigation Conservation

Comprehensive Groundwater and Watershed Management

S.1455/A.6988	Environmental Education for Judges
S.1828/A.2830	Sewage Treatment Plant Generators
S.1903/A.2987	Tax Credit for Oil Tank Replacement
S.3522/A.5717	Job Development Authority Funds
S.3645/A.6114	Training for Sewage Treatment Plant Operators
S.3662/A.6193	Safe Drinking Water Act
S.4589/A.7893	CEA Designation for SGPA's
S.4802/A.8086	Water Recharge Basins

Surface Water and Wetland Protection

S.3960/A.7041	Uniform Standards for Long Island Sound
S.5617/A.5168	Long Island Stream Management

THE FOLLOWING PAGES ARE MEMORANDA FOR NEW OR AMENDED LEGISLATION.

ASBESTOS CEMENT PIPING BAN
(Senate 3537, Assembly 5843)

Title of Bill: An Act to amend the Executive Law, in relation to standards for construction of water supply systems.

Purpose or General Idea of Bill: Since asbestos cement pipe used to convey public water supplies has been found to deteriorate due to corrosive water or flooding, the legislation bars its further use.

Summary of Specific Provisions: The Executive Law is amended to amend the New York State Building Code to bar any new installation of asbestos cement piping for new construction or modifications to existing pipes. Subdivisions 7, 8, and 9 of Section 378 of the Executive Law are renumbered Subdivision 8, 9 and 10 and a new Subdivision 7 is added.

Justification: The New York State Department of Health has been surveying asbestos cement pipe (ACP) during the past three years. The Department found, through voluntary sampling, that 543 public water systems statewide contain some ACP, 120 of which had detectable levels of fibers in the water supply. Inspections and sampling have unveiled significant deterioration in some systems and several suppliers have chosen to replace the pipe.

The piping can deteriorate primarily due to corrosive water. There are remedial actions that can be taken to prevent deterioration of the pipe such as pH adjustment and adding chemicals that form a coating on the pipes. However, systems which were not using corrosion control at the time of installation are suspect, even if corrosion control is being practiced now.

The two concerns with ACP deterioration are structural integirty for transmission of water and health effects. The asbestos issue was raised in 1985 because of the contaminaton occurrence in the Town of Woodstock which was viewed as a worse case scenario. In that case, the asbestos was finally discovered because excessive deterioration had clogged filters, reduced water pressure, and fibers could be seen in the water. In the Woodstock report, DOH commented on the controversy of the health effects:

> "There does not appear to be any immediate health effects if you drink water containing asbestos fibers...the available data from human and animal studies are contradictory. While most swallowed asbestos is probably excreted in the feces, some short and long fibers may migrate into and possibly through the lining (mucosa) of the intestines. Because asbestos has been proven to cause human disease especially in occupational studies where it has been inhaled, a conservative approach is that drinking water with high levels of asbestos is a cause for concern."

Because the evidence is inconclusive, the State should be conservative and take steps to prevent further use of a pipe that may be a health concern. Since deterioration normally would not be detected without visual inspections and water sampling under varying conditions, the Environmental Protection AGency and the State Department of Health will be promulgating a drinking water standard for asbestos and establishing regulatons which will require testing of public water supplies that use ACP.

Fiscal Implications for State and Local Governments: None

Effective Date: This act shall take effect immediately

DEFINITION OF QUALIFIED LABORATORY
(Senate 3646, Assembly 6113)

Title of Bill: An Act to amend the general business law in relation to changing the definition of "qualified laboratory".

Purpose or General Idea of Bill: To clarify the definition of "qualified laboratory" as it relates to the testing of water treatment systems.

Summary of Specific Provisions: Subdivision 7 of Sectio 350-g of the general business law as added by Chapter 573 of the Laws of 1990 is amended.

When testing water quality before and after treatment a qualified laboratory shall mean a federal or state certified laboratory or the equivalent as determined by the Commissioner of Health.

Justification: The definition is changed to insure that the intent of the law is clear. Currently, the language states that the laboratory shall use federal testing protocol. However, the intent was to require that the laboratory be approved by the federal or state government to provide quality control.

Fiscal Implications for State and Local Governments: None

Effective Date: 180 days after the law is passed.

WATER VENDING MACHINES
(Senate 4799 ,Assembly 8231)

Title of Bill: An Act to amend the public health law in relation to water vending machines and retail water facilities.

Purpose or General Idea of Bill: Requires that the Public Healht Council establish statewide standards and regulations for the testing of water vending machines, and retail water facilities.

Summary of Specific Provisions: Would add a new Subdivision 10 to Section 225 of the Public Health Law.

Justification: There are currently no statewide regulations pertaining to the sale of water through water vending machines or retail water facilities. This bill would provide uniform requirements affecting the water distributed by these means which is being purchased by consumers for safe drinking purposes.

This bill will help ensure that the water is of good quality.

Fiscal Implications for State and Local Governments: None

Effective Date: Immediately.

GREYWATER REGULATIONS
(Senate 1829, Assembly 2828)

Title of Bill: An Act to amend the Environmental Conservation Law, in relation to the reuse of water.

Purpose or General Idea of Bill: To provide a statutory definition of greywater and to require the New York State Department of Environmental Conservation, in cooperation with the New York State Department of Health, to develop rules, regulations, and standards for the reuse and disposal of greywater.

Justification: Wastewater that comes from household and commercial buidings from sinks, tubs, shower, washing machines, and dishwashers can be reused in what is known as greywater systems. This wastewater is non-toxic in nature and can be recycled within the home or facility for various purposes. Several homes and office buildings throughout the country reuse greywater in flush toilets. Greywater can also be used for growing plants and flowers within a building or in adjacent greenhouses. There is no discharge of the greywater to the environment.

Greywater can be considered a wasted resource because it is unnecessarily discharged to sewage treatment facilities and ultimately to ground, surface, or marine waters of the state. Recycling of greywater is environmentally sound since it reduces the need to use precious and pure groundwater. In many areas of the state, and particularly, on Long Island, pure groundwater supplies are limited.

Several states, including New Jersey and Pennsylvania, provide standards and regulations for the reuse of greywater. Greywater systems have been successfully used in these states to protect groundwater supplies. It is essential that New York State law define greywater and that state agencies develop standards for the reuse of greywater in New York.

At a hearing held by the Legislative Commission on Water Resource Needs of Long Island, testimony presented by the New York State Department of Environmental Conservation indicated that the lack of state regulatons regarding greywater creates a situation where DEC must regulate greywater as they would black water or sewage. Indeed, the lack of regulatons on this subject by either DEC or DOH has prevented DEC from using greywater systems in some of their facilities.

Fiscal Implications for State and Local Governments: None

Effective Date: This act shall take effect immediately; provided however, that the addition, amendment and/or repeal of any rule or regulation necessary for the implementation of this act is authorized and directed to be made and completed within 180 days after the date on which this act becomes a law.

WATER CONSERVATION RETROFIT PROGRAM
(Senate 4313, Assembly 7092)

Title of Bill: An Act to amend the Environmental Conservation Law in relation to requiring certain water purveyors to develop and implement water conservation plumbing retrofit programs.

Purpose or General Idea of Bill: To conserve water, improve water quality, and cut immediate costs to consumers for water heating bills as well as future costs of expansion or development of new water supplies and treatment facilities by requiring water purveyors to develop and implement water conservation plumbing retrofit programs for residential, commercial and institutional users.

Summary of Specific Provisions: The bill would require large water purveyors within counties served by the New York City water supply system and Rockland, Nassau and Suffolk counties to develop water conservation retrofit programs. Water purveyors would be required to achieve a minimum goal of a fifteen percent reduction in water withdrawals, and in cumulative influent to sewage treatment plants located within their service area. As part of this program, purveyors would provide customers, without direct charge a water conservation retrofit kit. The kit shall include at least one of the following: low flow shower head, faucet aerator, toilet tank dsiplacement device and toilet tank leak detection tablets. Devices may be deleted from the kit based on customers' need. In this way, the water saving performance standards that now apply to the sale and installation of new water fixtures will be expanded to pre-1980 water fixtures.

Benchmark measurements of water withdrawals as well as influent to sewage treatment plants located within the purveyor service area will be used to gauge the effectiveness of the conservation programs to allow for growth and ensure both supply and sewage treatment issues are addressed. Purveyors may also seek to meet the 15% goal through leak detection and repair, and water use audits of industrial, commercial and institutional users.

Water purveyors may develop retrofit programs in conjunction with other water purveyors, municipal governments, local energy utilities, sewage treatment plants, and professional trade organizations. The Department may grant water purveyors waivers from requirements deemed to have been met by the effective date of this article. Water purveyors may also be granted waivers from the 15% reduction in water withdrawals and sewage treatment plant influent reduction goal if upon evaluating district water use, water purveyors determine that a 15% reduction cannot be achieved by the tenth year of implementation of the plan. The DEC will approve and oversee the implementation of these programs. The bill sunsets thirteen years after the effective date unless reauthorized on the recommendation of the Department

Effects of Present Law Which This Bill Would Alter: Adds a new Title 14 to Article 15 of the Environmental Conservation Law.

Justification: The New York State Water Resources Management Strategy of 1989 recommends development of comprehensive water conservation programs, including promoting the installation of water saving plumbing fixtures in residences. Water conservation retrofit programs are a prudent, cost-effectove means to save water, improve water quality and defer capital expansion costs.

The Water Resources Management Strategy also concluded that the lower Hudson Valley is "water supply stressed", meaning water supply is not sufficient to meet demand during periods of drought. Long Island is already subject to pumping restrictions. Many suppliers are faced with the options of cutting water usage, developing new sources of drinking water, or some combination of these two. Since the development of a new drinking water source could cost hundreds of millions of dollars, water conservation is clearly the cheaper alternative in solving water quantity problems.

Of equal concern in the areas of the lower Hudson Valley, New York City and Long Island are the large number of wastewater treatment plants operating in violation of flow and SPDES permit requirements. In 1989, 24 plants in the downstate region operated above capacity for at least one month out of the year. Over-capacity treatment plants are not able to provide the same level of treatment to sewage as plants operating within their design limits. As a result, many of these plants are discharging inadequately treated sewage into the Hudson River, Long Island Sound, East River, New York Harbor and the Atlantic Ocean. Reducing the flow to sewage treatment plants through conservation retrofit programs will enable the plants to better meet permit requirements for capacity and pollutant loadings, serve an expanded customer base and defer the expansion of sewage treatment facilities.

Retrofit programs have realized tremendous savings in communities by reducing the size of needed expansion of sewage treatment facilities, or, in the case of San Jose, California, of deferring a $180 million plant expansion.

Cost savings for homeowners are more readily quantifiable and more dramatic, particularly in terms of savings in hot-water heating costs. Figures from a U.S. Department of Housing and Urban Development study of water use habits and the documented water savings using low-flow devices indicate a 30 gallon per capita daily savings in water use, or an average savings of 14,500 gallons per household annually. Considering fixed capital costs that make it difficult to translate water savings into water service or sewer service billing reductions, consumers are most likely to experience savings in terms of water heating bills from $30 to $100 per year depending on the energy source used. Clearly, a retrofit kit recipient recoups the cost of the retrofit kit in a period of just a few months.

Fiscal Implications for State and Local Governments: Considerable savings will be realized through the deferment of the expansion and reduction of the size of future expansion of water supplies and sewage treatment facilities. Water purveyors may adjust rates in order to meet debt service and capital construction costs.

Effective Date: One hundred twenty days after it shall have become a law.

ENVIRONMENTAL EDUCATION FOR JUDGES
(Senate 1455, Assembly 6988)

Title of Bill: An Act to amend the Judiciary Law, in relation to environmental law education for judges and justices.

Summary of Specific Provisions: The judiciary law is amended so that the educational programs, seminars, and institutes established by the Office of Court Administration (OCA) will include a review of information on the civil and criminal provisions of the Environmental Conservation Law (ECL) relating to air and water pollution, and solid and hazardous wastes.

Justification: The purpose of including a review of the ECL in judicial training programs is to ensure that the laws relating to pollution control and waste management are enforced in an efficient and consistent manner. It has become apparent in recent years that state and local judges and justices are unaware or unsure of how to apply the statutes enacted to protect the environment of New York State. The result has been a series of inconsistent decisions at the trial level which are often reversed in part or wholly overturned at the appellate level. Specific examples of some of these decisions were highlighted in a 1988 conference sponsored by the Legislative Commission on Toxic Substances and Hazardous Wastes and the Environmental Law Section of the New York State Bar Association. This conference, entitled, "Criminal Enforcement of New York State's Hazardous Substance Laws", featured a number of experts who advocated further environmental law education for judges and justices.

Such inconsistent decisions send a mixed message to potential violators of the ECL. The deterrent value of the enforcement provisions of the ECL is lost when the courts seem unsure of how to handle cases involving environmental crimes. Such decisions also add to the burden to spend time and resources correcting basic errors by the judges and justices.

This act is intended to improve the consistency and efficiency of the court system of New York State by improving the knowledge of judges and justices regarding environmental crimes. Such an improvement will enable the courts to deliver a firm statement of their support for environmental protection in the state of New York.

Fiscal Implications for State and Local Governments: None

Effective Date: This act shall take effect on January 1, 1992, provided however that, effective immediately, the addition, amendment, and/or repeal of any rule or regulation necessary for the implementation of this act on the effective date are authorized and directed to be made and completed on or before such effective date.

TAX CREDIT FOR OIL TANK REPLACEMENT
(Senate 1903, Assembly 2987)

Title of Bill: An Act to amend the Tax Law in relation to providing a credit against income tax for certain expenditures.

Purpose or General Idea of Bill: To allow residents a $1000 tax credit for the installation of fiberglass or fiberglass lined heating fuel storage tanks. The tax credit will be an incentive to replace the tank within the first year.

Summary of Specific Provisions: A taxpayer may take a credit in the amount of $1000 dollars to replace a steel underground fuel storage tank with a figerglass tank to prevent the eventual leakage of the steel tank. A homeowner's credit will be reduced by 20% each year to provide an incentive to replace the steel tank within one year.

Effects of Present Law Which This Bill Would Alter: Subdivision (m) of Section 606 of the tax law, as relettered by Chapter 686 of the laws of 1986, is relettered Subdivision (n) and a new subdivision (m) is added.

Justification: There are 250,000 residential underground storage tanks in Nassau and Suffolk alone. These tanks are thirty years or older and are constructed of unprotected steel. Due to corrosion, collectively these tanks may be leaking hundreds of thousands of gallons of fuel oil into the ground. This legislation would provide an incentive for homeowners to replace these tanks before they leak.

Effective Date: This act shall take effect on the first day of January next succeeding the date on which it shall have become law.

JOB DEVELOPMENT AUTHORITY FUNDS
(Senate 3522, Assembly 5717)

Title of Bill: An Act to amend the Public Authorities Law in relation to restrictions on funds of the New York Job Development Authority.

Purpose or General Idea of Bill: To broaden the application of Chapter 807 of the Laws of 1983 which prohibits the use of JDA funds for industries that are violating certain environmental laws.

Summary of Specific Provisions: The bill amends Subdivision 6 of Section 1823 of the public authorities law as added by Chapter 807 of the Laws of 1983. No funds of the JDA shall be loaned or used in respect of any project unless the applicant demonstrates that such project has a valid permit, when required, for the generation, storage and disposal of hazardous wastes (Article 27 of the ECL) and the discharge of wastes into the waters of the state (Article 17 of the ECL). If the applicant does not have a valid permit, the project comtemplated must correct such violation. Current law only restricts the loaning of funds in relation to permits for the treatment of hazardous wastes.

Justification: The legislation promotes a healthy economy while protecting the environment by prohibiting the JDA from funding any project unless it is able to meet environmental standards. The state should not loan funds to any person violating state laws.

Fiscal Implications for State and Local Governments: None

Effective Date: Immediately

TRAINING FOR SEWAGE TREATMENT PLANT OPERATORS
(Senate 3645, Assembly 6114)

Title of Bill: An Act to amend the public health law in relation to operators of public sewage treatment plants.

Purpose or General Idea of Bill: To establish qualifications for operators of sewage treatment plants that utilize the denitrification process.

Summary of Specific Provisions: Paragraph (b) of Subdivision 5 of Section 225 of the public health law is amended. The bill directs the Department of Health to establish a certification program for operators of sewage treatment plants that utillize the denitrification process or tertiary treatment.

By July 1, 1992, all operators must possess the qualifications as promulgated by the Department of Health.

Justification: Existing denitrification plants are experiencing operational problems and are in violation of their SPDES permits. Due to federal and state regulations, many additional plants will be upgraded, and newly constructed plants that discharge to groundwater will be required to remove nitrogen from the waste water. Since these plants have special requirements for operation and maintenance, a certification program should be required for operators in order to protect the environment.

This would add a new category for certification under an existing program which is implemented by DEC.

Fiscal Implications for State and Local Governments: None

Effective Date: 180 days after it has become law.

CEA DESIGNATION FOR SGPAs
(Senate 4589, Assembly 7893)

Title of Bill: An Act to amend the Environmental Conservation Law, in relation to the classification of certain special groundwater protection areas as critical environmental areas.

Purpose or General Idea of Bill: To designate special groundwater protection areas (SGPA's) in Nassau and Suffolk Counties as critical environmental areas as defined under the State Envrionmental Quality Review Act.

Summary of Specific Provisions: The bill amends Subdivision 6 of Section 55-0117 of the Environmental Conservation Law as added by Chapter 219 of the Laws of 1990. The bill also makes technical changes to other provisions of Chapter 219.

Article 55 declared, that for the purposes of this act, the SGPA's shall be critical environmental areas as defined pursuant to the State Environmental Quality Review Act. However, the law provided preliminary boundaries which made it difficult to implement the provision. This bill cites the final boundaries as those adopted by the Long Island Regional Planning Board as part of the development of the SGPA Comprehensive Management Plan. Upon passage of this bill, the critical environmental areas can be listed with the Department of Environmental Conservation, the proper agencies can be notified and the provision can be effectuated.

Justification: Article 55 designated nine SGPA's in Nassau and Suffolk Counties. SGPA's are recharge watershed areas which are particularly important for the maintenance of large volumes of high quality groundwater for long periods of time. The law directed the Long Island Regional Planning Board to finalize the boundaries of the SGPA's and to develop a comprehensive watershed management plan for those areas.

Chapter 628 of the Laws of 1987 established Article 55, the Sole Source Aquifer Protection Act. Article 55 also designated the SGPA's as critical environmental areas under the State Environmental Quality Review Act. Such designaton requires a more thorough environmental review for proposed actions within SGPA's. Since the objective is to prevent degradation of these watersheds and since these areas are being threatened by development, is it imperative that proposed actions be scrutinized to assess their impact on the quality and quantity of Long Island's sole source aquifer.

It was the original intent of Article 55 to effectuate the designation of critical environmental areas immediately upon passage of the bill. However, since the boundaries were preliminary, it was vague as to when the critical environmental area designation would take effect. The management plan is nearing

completion and the boundaries are finalized. Therefore, the deisgnation of SGPA's as critical environmental areas should be implemented as soon as possible to provide additional protection and to fulfill the original intent of the law.

This action is supported by the members of the SGPA Technical Advisory Committee, which is composed of representatives of municipalities, the Department of Environmental Conservation, the Department of Health and the Long Island Regional Planning Board.

Fiscal Implications for State and Local Governments: None

Effective Date: This act shall take effect immediately.

UNIFORM STANDARDS FOR LONG ISLAND SOUND
(Senate 3960, Assembly 7041)

Title of Bill: An Act to amend the Environmental Conservation Law, in relation to uniform water quality standards.

Purpose or General Idea of Bill: To provide for uniform water quality standards for the Long Island Sound.

Justification: Maintaining good water quality in the state's marine and coastal district is essential for a viable shellfishing industry and for protecting public health. Measuring fecal coloform bacteria in the state's waters provides the data and basis for opening and closing our bays and estuaries to swimming and shellfishing.

New York and Connecticut share the Long Island Sound estuary but use different fecal coliform standards in classifying water bodies. This is confusing and unnecessary. This bill would require DEC, in cooperation with the state of Connecticut officials, to develop uniform water quilaity standards for fecal coliform bacteria for Long Island Sound and adjacent bays and tributaries.

This bill is a result of cooperative efforts between the States of New York and Connecticut, through the Bi-State Long Island Sound Committee, to protect the Long Island Sound Estuary and its marine resources.

Fiscal Implications for State and Local Governments: None

Effective Date: Immediately, provided that any rule or regulation necessary for the implementation of this act is authorized and directed to be made and completed within 180 days after the date on which this act becomes a law.

Senate Legislation

Bill Description	Bill Number (1991)
Conservation in Sewage Treatment Plants	S. 3661 A. 6192

Requires, as part of an application for state or federal financial assistance, that the sewage treatment project incorporates measures to conserve water. The municipality must consider the reuse of treated wastewater and the use of nonpotable water for process water.

Tracking Oil Consumption	S. 4288 A. 7019

Requires home heating oil dealers who deliver petroleum on an automatic basis to maintain records of all deliveries. The dealer shall compare such records and shall notify the homeowner of any abnormally high consumption rate of oil which may indicate a leak in the storage system. Many underground tanks have surpassed their lifetime expectancy and have been found to leak oil into the ground, potentially contaminating groundwater.

Long Island Great South Bay Reserve	S. 4302 A. 7071

Creates a Long Island Great South Bay Reserve to protect and manage this environmentally sesitive estuarine system. A Reserve Council is established to develop a comprehensive management plan for the estuary by July 1, 1993. The Reserve Council shall make recommendations to coordinate state and local efforts to control pollution.

Insurance Rate Reduction for New Oil Tanks	S. 5618

Provides a ten percent reduction in homeowner insurance premiums for those who replace old underground home heating oil tanks.

Assembly Legislation

Bill Description	Bill Number (1990)
LI Waste Recycling Corp.	A. 8282

Establishes a public corporation to plan, coordinate and assist the development of comprehensive waste reduction, recycling and re-use programs in Nassau and Suffolk Counties.

Water Purveyors Joint Purchases Through OGS	A. 9875

Allows two or more public water suppliers to make joint purchase of equipment and supplies through the Office of General Services.

Well Permit Criteria	A. 10146

Long Island well permits would be evaluated based on criteria which would include three dimensional models of well's catchment areas where feasible, and identification of potential maintenance or improvement in well water quality through control and management of identified contamination sources.

	Bill Number (1991)
Yard Waste Incineration/Compost	A.2646 S.1662

Prohibits the incineration of yard wastes in municipal solid waste management facilities, or in facilities operated on behalf of municipalities.

Long Island Well Permits	A. 5165

Requires a permit for new water supply wells on Long Island, and provides specific criteria upon which determinations shall be made; criteria include location of well(s), impacts on aquifer segment, identification of areas of contamination, and contingency plans for each well. In addition, this bill would increase the penalties for violation.

Assembly Legislation

Bill Description	Bill Number (1991)

SPDES Audit Program — A. 5166

As part of the SPDES permit renewal process, a Waste and Conservation Audit would have to be conducted for Marine and Coastal District sewage treatment plants with a capacity of one million gallons per day. Plants which discharge into the surface or groundwater in a sole source aquifer would also need an audit. The audit would identify contaminants being discharged, their potential sources and possible methods and actions which could be taken to reduce the amount of wastewater flowing into and out of the system. A fee schedule will be established to offset the costs for DEC review of the audits.

SPDES Permits in SGPAs — A. 5167

Prohibit the issuance of new SPDES permits in SGPAs. As part of the SPDES permit renewal process, a Waste and Conservation Audit would have to be conducted for existing facilities within SGPAs on Long Island. The audit would identify contaminants being discharged, the potential sources, and possible methods and actions which could be taken to reduce the amount of wastewater flowing into and out of the system.

SPDES Permit Violators — A. 5169

This bill amends the Environmental Conservation Law to deny permit renewals to persons in violation or noncompliance with existing permits dealing with air and water pollution, wetlands, solid and hazardous waste and pesticide application. In addition, this bill significantly increases the penalties for violations of these permits, thereby imposing sanctions sufficient to deter noncompliance.

Valdez Principles — A. 5170

Requires State Retirement System funds to give investment preference to corporations which comply with the so-called "Valdez Principles". The principles are designed to aid in the identification of environmentally aware and conservation-minded corporation.

Assembly Legislation

Bill Description	Bill Number (1991)
Oil Spill Liability	A. 5327 S. 3429

Provides limited immunity to parties not responsible for an oil spill that engage in rendering aid or advice consistent with the national contingency plan. Also adds definitions for damages, Federal On-Scene Coordination National Contingency Plan, oil and responsible party.

Biodegradable Labeling	A. 5547

This bill prohibits the use of the terms biodegradable, degradable or photodegradable on plastic products on their packaging. Claims that plastic with additives such as cornstarch or iron salt will more readily decompose, are inaccurate and misleading to the consumer. In fact these kinds of additives in plastics compromise their recyclability.

Bioassay Monitoring	A. 5999 S. 3606

Requires bioassay monitoring for all point source discharges into the surface waters of the state that discharge toxics. This type of monitoring exposes test organisms to certain pollutants and observes the effects of such exposure in order to calculate degrees of danger to aquatic life.

Advertising Claims Regarding Water Vending Machines	A. 8238

Provides for strict enforcement provisions and descriptions of various sales practices which would be considered false and deceptive.

CSO Separation	A. 9801

Requires separate storm drains and requires that onsite recharge of rainfall be provided for all new construction or reconstruction in areas within a sole source aquifer.

SECTION VIII
ACRONYMS

DEC.....Department of Environmental Conservation

SGPA.....Special Groundwater Protection Areas

LIRPB.....Long Island Regional Planning Board

SCWA.....Suffolk County Water Authority

USGS.....United States Geological Survey

USDA.....United States Department of Agriculture

SEQRA.....State Environmental Quality Review Act

SEO.....New York State Energy Office

CEA.....Critical Environmental Areas

DOE.....Department of Energy

AWWA.....American Water Works Association

SCWA.....Suffolk County Water Authority

S.T.O.P.....Stop Throwing Out Pollutants

IDA.....Indistrial Development Agency

SCS.....Soil Conservation Service

IPM.....Integrated Pest Management

CWC.....core watershed corridors

MCL.....maximum contaminant level

voc.....volatile organic chemicals

MCLG.....maximum contaminant level goal

gpd.....gallons per day

mgd.....million gallons per day

mg/l.....milligrams per liter

ppb.....parts per billion

STP.....sewage treatment plants

DIYs.....do-it-yourselfers